CALIPERS
HEIGHT GAUGES
DEPTH GAUGES

D

Calipers
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Calipers

Height Gauges

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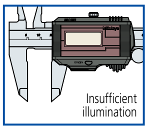
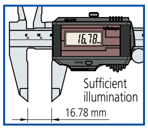
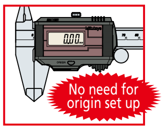
Calipers

SERIES 500 – ABSOLUTE Digimatic Coolant Proof Solar SuperCaliper

- Top-of-the-line digital caliper. Solar type caliper with no battery and IP67 protection assures waterproof reliability.
- With no annoying origin restoration necessary, a measurement can be started any time and there is no restriction on operating speed.






0.00
No need for origin set up

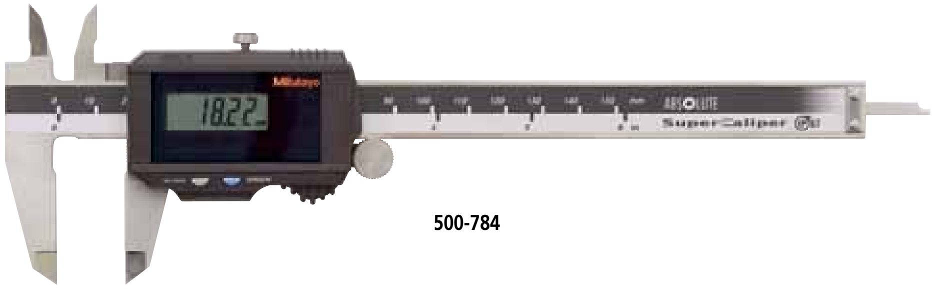
- SPC data output models can be integrated into statistical process control and measurement systems.
- Slider operation is smooth and comfortable.
- The impact resistance of the display unit has been increased for improved usability in workshop conditions.
- Waterproof function makes this SuperCaliper suitable for use in an environment containing large amounts of cutting fluid or coolant.
- Operability is equivalent to the mechanical type caliper.
- This SuperCaliper uses components that do not contain harmful substances and is compatible with RoHS Directives.

ABSOLUTE

IP67

www.tuv.com TÜVRheinland ID:2011207400

PROPRIETARY INSPECTION CERTIFICATE



500-784

SPECIFICATIONS

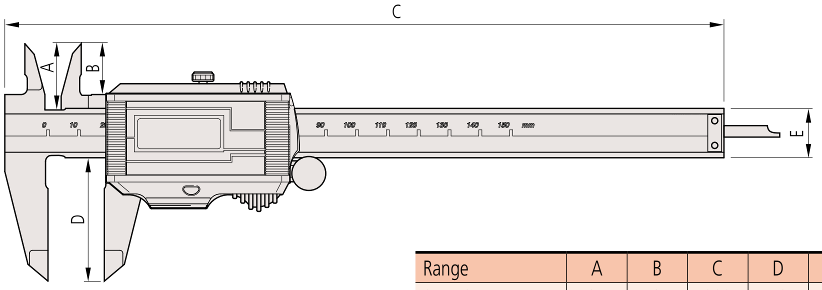
Inch/Metric

Code No.	Range	Resolution	Accuracy*[1]	Mass	**Price**
With SPC data output					
500-786	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm	180 g	**£210.00**
500-787	0 - 200 mm (0 - 8")			210 g	**£239.00**
Without SPC data output					
500-784	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm	180 g	**£156.00**
500-785	0 - 200 mm (0 - 8")			210 g	**£204.00**

*[1] Excluding quantizing error.

DIMENSIONS

Unit: mm



Range	A	B	C	D	E
0 - 150 mm	21	16.5	233	40	16
0 - 200 mm	24.5	20	290	50	

Jaw thickness: 3.5 mm

Technical Data

Repeatability:	0.01 mm
Quantizing error:	±1 count
Dust/water protection level:	IP67*[2]
Power supply:	Solar cell*[3]
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited

*[2] Rustproofing treatment to be applied after use.
*[3] Can be used continuously above 60 lux ambient illumination.

Functions

ABSOLUTE system measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The ABS (absolute) origin position can be changed by the ORIGIN button.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider for comparative measurements.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Inch/mm selection:
Switches the units of measurement (at any time).

Alerts:
If the ambient illumination and the stored charge voltage are insufficient an error message is displayed and measurement stops. If contamination on the surface of the scale causes a calculation error, an error message is displayed and measurement stops.

Smooth slider movement makes for comfortable operation.

High quality guide surface finish for smooth slider movement.

Conventional

SLIDING DIRECTION

Ra: 0.126 µm

SuperCaliper

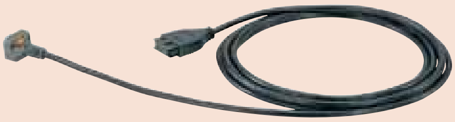
SLIDING DIRECTION

Ra: 0.07 µm

Optional Accessories

(Only for models with data output function)

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



About the charge function

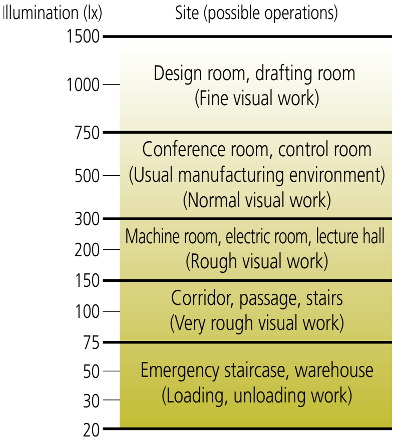
The minimum illumination required in the uncharged state is 60 lux.

As shown in the table at right, this SuperCaliper can be used with confidence in a normal work environment.

The charge function allows the operator to use the SuperCaliper without interrupting work even if the ambient illumination is temporarily insufficient.

In the fully charged state this SuperCaliper can operate for approximately one hour in an environment of 50 lux illumination (less than the minimum necessary illumination intensity).

The time necessary for full charge varies according to the charging conditions. If the SuperCaliper is left unused in an illumination of 500 lux (usual for manufacturing environments), it takes approximately one hour to reach full charge.

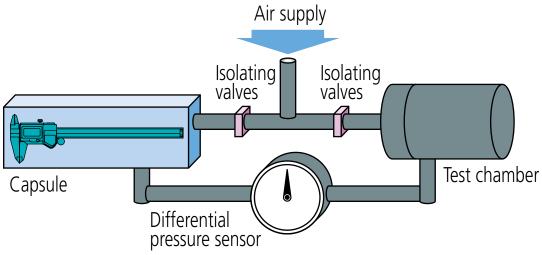


Excerpts from JIS Z 9110 Artificial Illumination Intensity Standard

Air leak test equipment for water resistance inspection

Generally, an air leak test is used for evaluating water resistance.

Procedure: Place the measuring tool inside the capsule and seal it. Then fill the capsule and the test chamber with air at the required pressure and close the isolating valves. If there is no leak in the measuring tool, the differential pressure sensor will read zero, because the amount of air inside the test chamber is unchanging. However, if there is a leak in the measuring tool, the differential pressure sensor will show a non-zero reading due to a decrease in pressure inside the test chamber as air leaks into the tool. By detecting this differential pressure, GO/NG judgement for the severity of the leak is performed. This air leak test is performed for all coolant proof calipers and coolant proof micrometers.

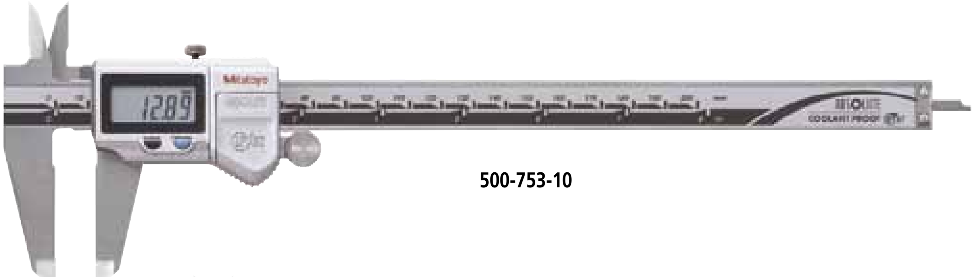


Air leak test equipment for coolant proof caliper

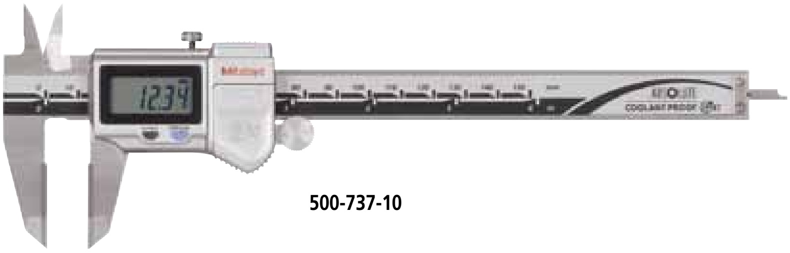
Calipers

SERIES 500 – ABSOLUTE Digimatic Coolant Proof Caliper

- Can be used in workshop conditions exposed to coolant, water, dust or oil. Other specifications and price are the same as the conventional products. 100% inspection by air leak test is performed to ensure quality and reliability.
- Large LCD characters make the display easy to read.
- Easy to use – advanced design styling with only 1 button.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin.
- SPC data output models can be integrated into statistical process control and measurement systems.
- Can measure outside and inside dimensions, depth, and steps.
- The automatic power-on/off function shuts down the LCD display after 20 minutes inactivity, but the ABS scale unit origin is stored. Power is restored when the slider is moved.
- A convenient interface input tool is available so that measurement data can be converted to keyboard signals and input directly to commercial spreadsheet software.
- An inspection certificate is supplied as standard. (However, this cannot be used as a calibration certificate as it is undated.)



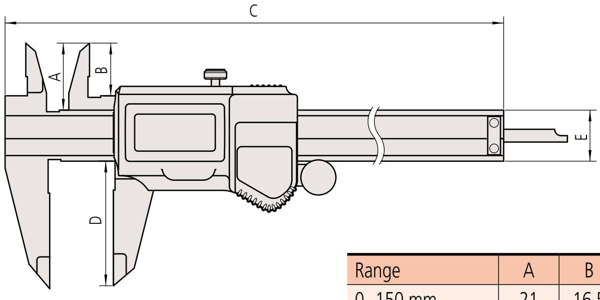
500-753-10



500-737-10

DIMENSIONS

Unit: mm



Range	A	B	C	D	E
0 - 150 mm	21	16.5	233	40	16
0 - 200 mm	24.5	20	290	50	
0 - 300 mm	27.5	21.8	404	64	20

Outside jaw thickness: 3.5 mm (500-714-10: 3.8 mm)

Technical Data

Resolution:	0.01 mm (.0005")
Repeatability:	0.01 mm
Quantizing error:	Not including ±1 count
Dust/water protection level:	IP67*[1]
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use (1 year: over 300 mm models)

*[1] Rustproofing treatment to be applied after use.

Functions

ABSOLUTE system measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The ABS (absolute) origin position can be changed by the ORIGIN button.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider for comparative measurements.

Auto ON/OFF:
The reading on the LCD disappears after this instrument is idle for a short time, but the origin point is retained. Moving the slider causes the reading on the LCD to reappear.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Inch/mm selection:
Switches the units of measurement (at any time).

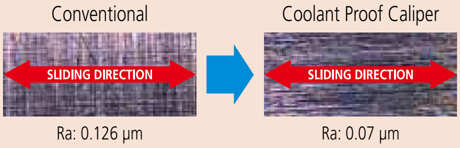
Alerts:
In the unlikely event of a display overflow or calculation error, an error message is displayed and measurement stops. Measurement cannot continue until the error is corrected. If the battery voltage drops below a certain point, the battery indicator will turn on before measurement becomes impossible, warning the user that the battery needs to be replaced. If contamination on the surface of the scale causes a calculation error, an error message is displayed and measurement stops.

Optional Accessories

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

Smooth slider movement makes for comfortable operation.

High quality guide surface finish for smooth slider movement.

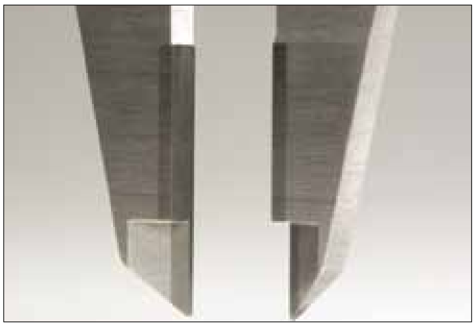


SPECIFICATIONS

Inch/Metric

Code No.	Range	Accuracy*2	Remarks	**Price**
With SPC data output				
500-762-10	0 - 150 mm (0 - 6")	±0.02 mm (.001")	—	**£170.00**
500-735-10			Carbide-tipped jaws for outside measurement	**£260.00**
500-737-10			Carbide-tipped jaws for outside and inside measurement	**£360.00**
500-763-10	0 - 200 mm (0 - 8")		—	**£240.00**
500-736-10			Carbide-tipped jaws for outside measurement	**£290.00**
500-738-10			Carbide-tipped jaws for outside and inside measurement	**£305.00**
500-764-10	0 - 300 mm (0 - 12")	±0.03 mm (.0015")	—	**£324.00**
Without SPC data output				
500-752-10	0 - 150 mm (0 - 6")	±0.02 mm (.001")	—	**£130.00**
500-731-10			Carbide-tipped jaws for outside measurement	**£234.00**
500-733-10			Carbide-tipped jaws for outside and inside measurement	**£274.00**
500-753-10	0 - 200 mm (0 - 8")		—	**£180.00**
500-732-10			Carbide-tipped jaws for outside measurement	**£260.00**
500-734-10			Carbide-tipped jaws for outside and inside measurement	**£310.00**
500-754-10	0 - 300 mm (0 - 12")	±0.03 mm (.0015")	—	**£250.00**

*2 Excluding quantizing error.



Carbide-tipped jaws for outside measurement

Carbide-tipped jaws for inside measurement

Calipers

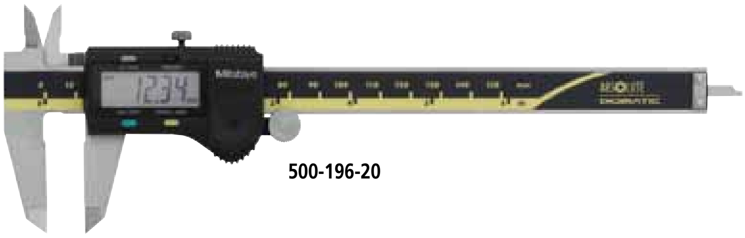
SERIES 500 – ABSOLUTE Digimatic Caliper

- The ZERO/ABS button allows the display to be Zero-Set at any slider position along the scale for comparison measurements. This button will also allow return to the absolute (ABS) mode and display of the true position from the origin (usually jaws closed point).
- Large and clear LCD readout.
- Smooth slider movement makes for comfortable operation.
- 20,000 hours battery life.
- Can measure outside and inside dimensions, depth, and steps.
- Carbide-tipped jaw calipers give the longest life when measuring rough finished parts, castings, grinding wheels, etc.
- Data output function allows integration into statistical process control and measurement systems.

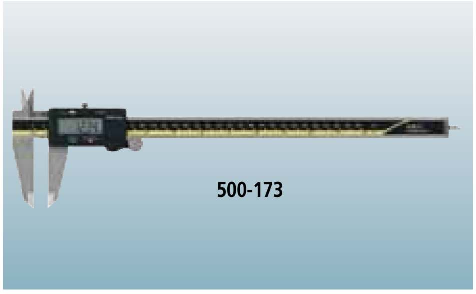
ABSOLUTE

PROPRIETARY INSPECTION CERTIFICATE

500-172-20



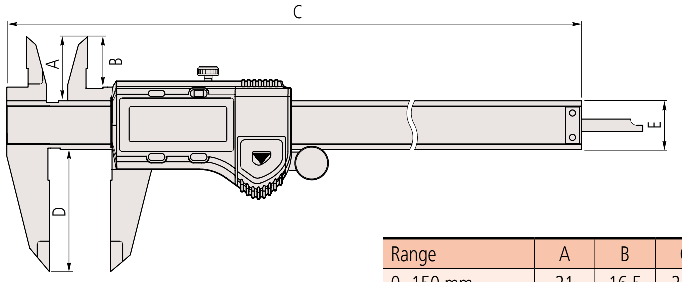
500-196-20



500-173

DIMENSIONS

Unit: mm



Range	A	B	C	D	E
0 - 150 mm	21	16.5	231	40	16
0 - 200 mm	24.5	20	288	50	
0 - 300 mm	27.5	21.8	403	64	20

Technical Data

Resolution:	0.01 mm (.0005")
Repeatability:	0.01 mm
Scale type:	ABSOLUTE electrostatic linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3.5 years under normal use (20,000 hours for continuous use)

Functions

Absolute measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The Absolute origin position can be changed by the ORIGIN button.

Incremental measurement:
Display can be set to zero at any arbitrary position for comparative measurements.

Scale contamination detection:
Contamination on the surface of the scale is detected and an error message (ErrC) is displayed.

Low-voltage alert:
If the battery voltage becomes low, a "B" appears in the display to alert the user before measurement is no longer possible. A battery change advisory alert precedes this alert.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Data hold:
By using the data hold unit (option), the displayed value can be held. This cannot be used with the data output function.

Optional Accessories

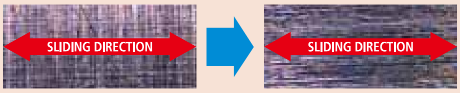
(Only for models with data output function)

959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

959143: Data hold unit
£17.00

Smooth slider movement makes for comfortable operation.

High quality guide surface finish for smooth slider movement.



Conventional: Ra: 0.126 µm

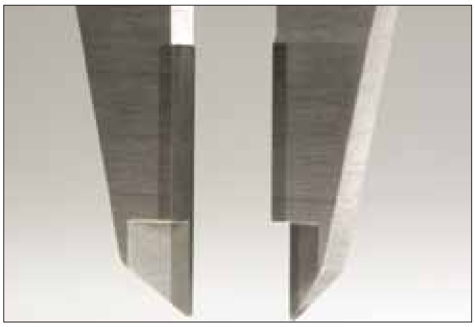
ABSOLUTE Digimatic Caliper: Ra: 0.071 µm

SPECIFICATIONS

Inch/Metric

Code No.	Range	Accuracy*[2]	Remarks	Price
With SPC data output				
500-171-20	0 - 150 mm (0 - 6")	±0.02 mm (.001")	—	**£139.00**
500-174-20			Carbide-tipped jaws for outside measurement	**£198.00**
500-175-20			Carbide-tipped jaws for outside and inside measurement	**£340.00**
500-172-20	0 - 200 mm (0 - 8")		—	**£172.00**
500-176-20			Carbide-tipped jaws for outside measurement	**£239.00**
500-177-20			Carbide-tipped jaws for outside and inside measurement	**£305.00**
500-173	0 - 300 mm (0 - 12")	±0.03 mm (.0015")	—	**£321.00**
500-167			Carbide-tipped jaws for outside measurement	**£463.00**
500-168			Carbide-tipped jaws for outside and inside measurement	**£557.00**
Without SPC data output				
500-196-20	0 - 150 mm (0 - 6")	±0.02 mm (.001")	—	**£99.00**
500-159-20			Carbide-tipped jaws for outside measurement	**£236.00**
500-160-20			Carbide-tipped jaws for outside and inside measurement	**£308.00**
500-197-20	0 - 200 mm (0 - 8")		—	**£142.00**
500-163-20			Carbide-tipped jaws for outside measurement	**£220.00**
500-164-20			Carbide-tipped jaws for outside and inside measurement	**£413.00**
500-193	0 - 300 mm (0 - 12")	±0.03 mm (.0015")	—	**£286.00**
500-165			Carbide-tipped jaws for outside measurement	**£410.00**
500-166			Carbide-tipped jaws for outside and inside measurement	**£561.00**

*[2] Excluding quantizing error.



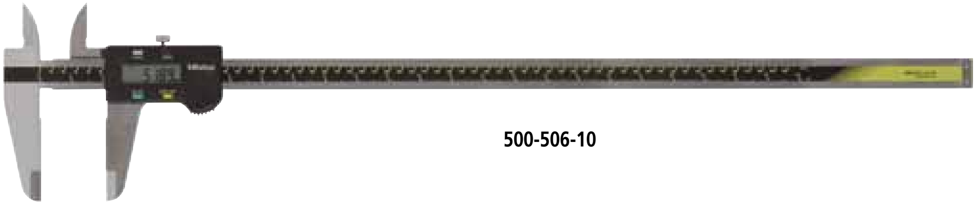
Carbide-tipped jaws for outside measurement

Carbide-tipped jaws for inside measurement

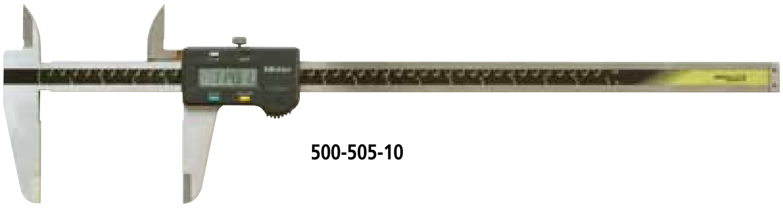
Calipers

SERIES 500 – ABSOLUTE Digimatic Long Beam Caliper

- Long Digimatic caliper incorporating Mitutoyo's ABSOLUTE scale and available with a measuring range from 450 mm to 1000 mm.
- Can measure outside and inside dimensions, depth, and steps.
- Data output function allows integration into statistical process control and measurement systems.



500-506-10



500-505-10

SPECIFICATIONS

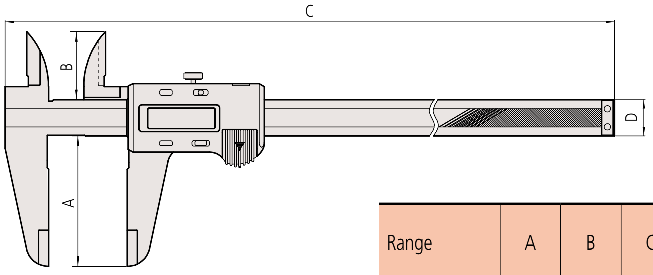
Inch/Metric

Code No.	Range	Resolution	Accuracy*	Repeatability	Price
500-505-10	0 - 450 mm (0 - 18")	0.01 mm (.0005")	±0.05 mm (±.002")	0.01 mm	**£549.00**
500-506-10	0 - 600 mm (0 - 24")				**£594.00**
500-507-10	0 - 1000 mm (0 - 40")		±0.07 mm (±.003")		**£1030.00**

* Excluding quantizing error.

DIMENSIONS

Unit: mm



Range	A	B	C	D	Measuring surface thickness
0 - 450 mm	90	47	630	25	6
0 - 600 mm			780		
0 - 1000 mm	130	60	1240	32	8

Technical Data

Scale type:	ABSOLUTE electrostatic linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3.5 years under normal use (20,000 hours for continuous use)

Optional Accessories

(Only for models with data output function)

959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

959143: Data hold unit
£17.00

SERIES 500 – ABSOLUTE Digimatic Solar Caliper

Technical Data

Scale type:	ABSOLUTE electrostatic linear encoder
Max. response speed:	Unlimited
Power supply:	Solar cell*[1]
Operational temperature:	0 to 40°C

*[1] Can be used continuously above 60 lux ambient illumination

Functions

ABSOLUTE system measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The ABS (absolute) origin position can be changed by the ORIGIN button.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider for comparative measurements.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Data hold:
By using the data hold unit (option), the displayed value can be held. This cannot be used with the data output function.

Inch/mm selection:
Switches the units of measurement (at any time).

Alerts:
In the unlikely event of a display overflow or calculation error, an error message is displayed and measurement stops. Measurement cannot continue until the error is corrected. If contamination on the surface of the scale causes a calculation error, an error message is displayed and measurement stops.

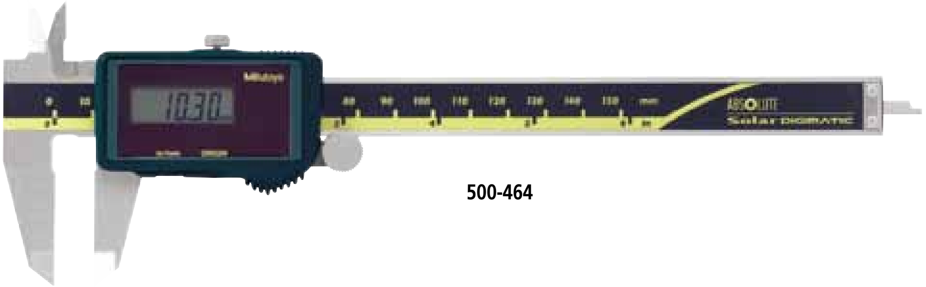
Optional Accessories

(Only for models with data output function)

959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

959143:	Data hold unit **£17.00**

- Mitutoyo's Absolute Solar Digimatic Caliper retains its origin point indefinitely.
- At 60 Lux and above the ABSOLUTE solar caliper is ready to start measurement. No more repeated zero setting caused by a shortage of light.
- Can measure outside and inside dimensions, depth, and steps.
- Slider operation is smooth and comfortable.
- An ABSOLUTE scale is incorporated so that zero setting is not required at each power ON. No danger of overspeed errors.
- Allows integration into statistical process control and measurement systems for models with measurement data output connector.



500-464

SPECIFICATIONS

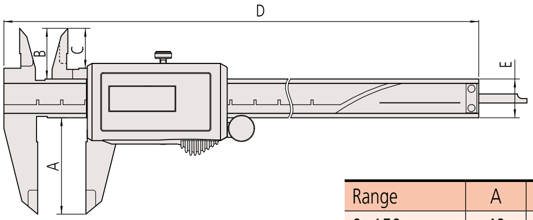
Inch/Metric

Code No.	Range	Resolution	Accuracy*	Repeatability	**Price**
With SPC data output					
500-464	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm (±.001")	0.01 mm	**£201.00**
500-465	0 - 200 mm (0 - 8")				**£238.00**
Without SPC data output					
500-474	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm (±.001")	0.01 mm	**£143.00**
500-475	0 - 200 mm (0 - 8")				**£173.00**

* Excluding quantizing error.

DIMENSIONS

Unit: mm



Range	A	B	C	D	E
0 - 150 mm	40	21	16.5	233	6
0 - 200 mm	50	24.5	20	290	

Smooth slider movement makes for comfortable operation.

High quality guide surface finish for smooth slider movement.

Conventional

SLIDING DIRECTION

Ra: 0.126 µm

ABSOLUTE Solar Caliper

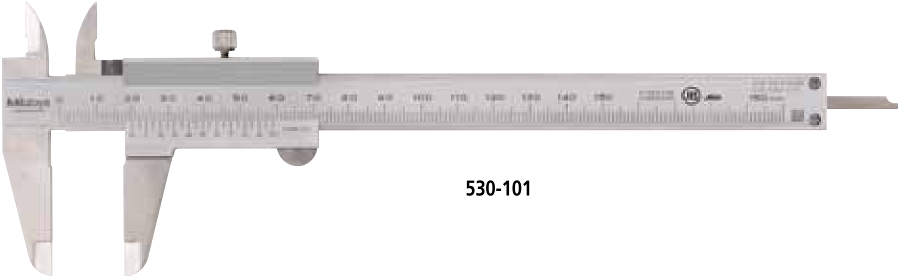
SLIDING DIRECTION

Ra: 0.071 µm

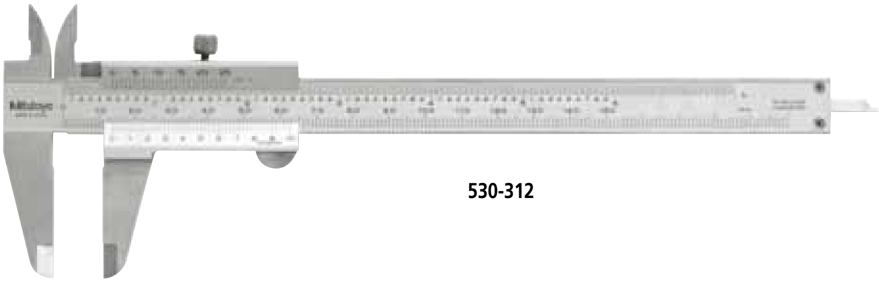
Calipers

SERIES 530 – Vernier Caliper

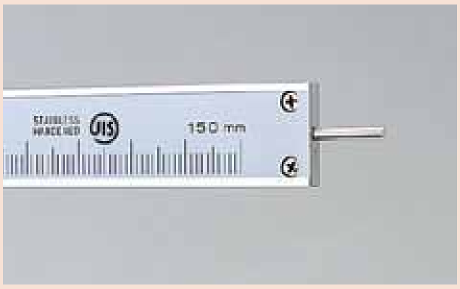
- Stepped graduation face prevents dust ingress between the main scale and slider.
- The small vernier face angle (14°) provides easy reading.
- Can measure outside and inside dimensions, depth, and steps.
- Carbide-tipped jaw calipers give the longest life when measuring rough finished parts, castings, grinding wheels, etc.
- Decimal and fractional graduated scales (metric/inch and inch models only).



530-101

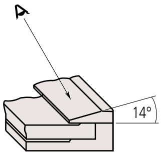


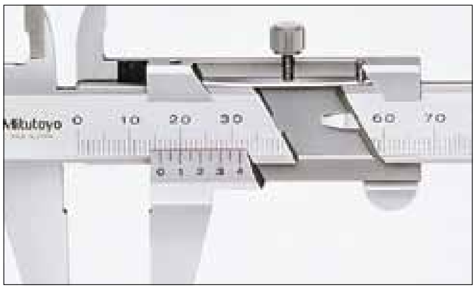
530-312



530-102 (Round rod depth bar type)

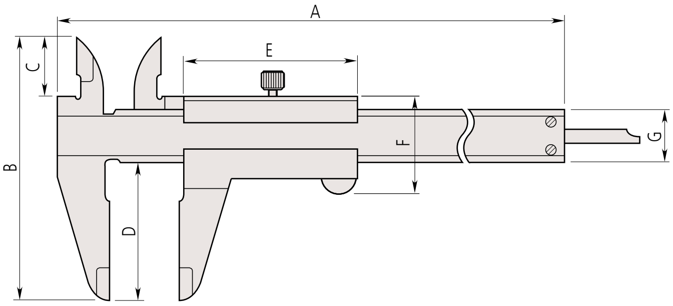
530-320 (Carbide-tipped jaw type)





DIMENSIONS

Unit: mm



Range	A	B	C	D	E	F	G	Outside jaw thickness
0 - 100 mm	182	77.5	17	40	53.5	30	16	3
0 - 150 mm	229							
0 - 200 mm	288	91	20.5	50				
0 - 300 mm	404	111.5	22	64	66.5	36	20	3.8
0 - 600 mm	780	162	38	90	89	50	25	6
0 - 1000 mm	1240	222	50	130	111	61	32	8

* Code No.530-102 incorporates a round rod depth bar (ø1.9 mm). The depth bar shown above is a blade type.

SPECIFICATIONS

Metric

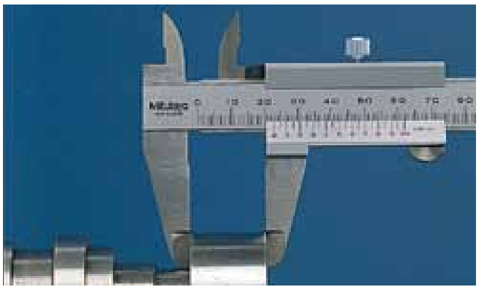
Code No.	Range	Accuracy	Graduation	Depth bar	Remarks	Price
530-102	0 - 150 mm	±0.05 mm	0.05 mm	ø1.9 mm rod	—	**£43.50**
530-101				Blade	—	**£29.90**
530-320					Carbide-tipped jaws for outside measurement	**£94.50**
530-108	0 - 200 mm	±0.08 mm			—	**£56.90**
530-321					Carbide-tipped jaws for outside measurement	**£96.40**
530-109	0 - 300 mm				—	**£158.00**
530-322					Carbide-tipped jaws for outside measurement	**£250.00**
530-501	0 - 600 mm	±0.1 mm		—	—	**£388.00**
530-502	0 - 1000 mm	±0.15 mm				**£878.00**

Inch/Metric

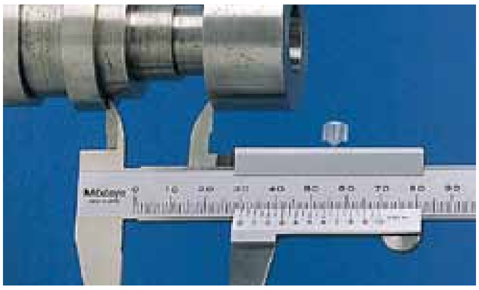
Code No.	Range	Accuracy	Graduation	Depth bar	Remarks	Price
530-104	0 - 150 mm (0 - 6")	±0.05 mm	0.05 mm (1/128")	Blade	—	**£39.60**
530-312		±0.03 mm	0.02 mm (.001")		High accuracy model	**£39.60**
530-118	0 - 200 mm (0 - 8")	±0.03 mm	0.02 mm (.001")		High accuracy model: ±0.03 mm	**£56.90**
530-115	0 - 300 mm (0 - 12")	±0.08 mm	0.05 mm (1/128")		—	**£158.00**
530-119		±0.04 mm	0.02 mm (.001")		High accuracy model: ±0.04 mm	**£158.00**

Measurement Applications

1. Outside measurement

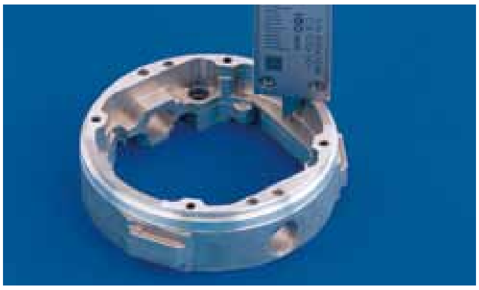


2. Inside measurement



3. Step measurement

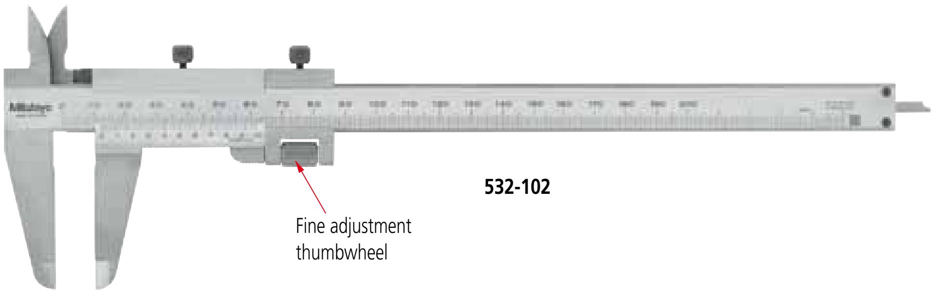
4. Depth measurement



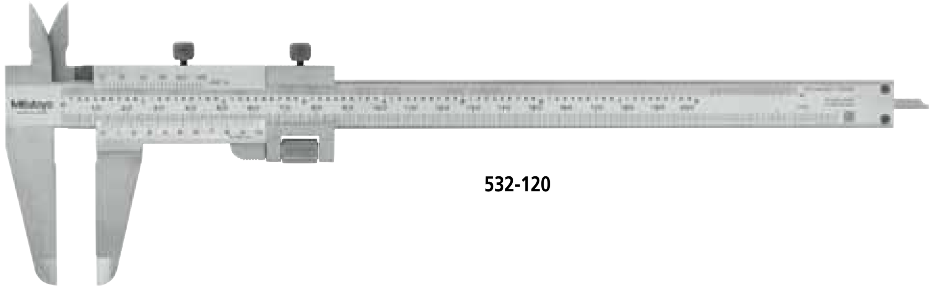
Calipers

SERIES 532 – Vernier Thumbwheel Caliper

- Fine-adjustment thumbwheel aids slider positioning.
- Can measure outside and inside dimensions, depth, and steps.



532-102



532-120

SPECIFICATIONS

Metric

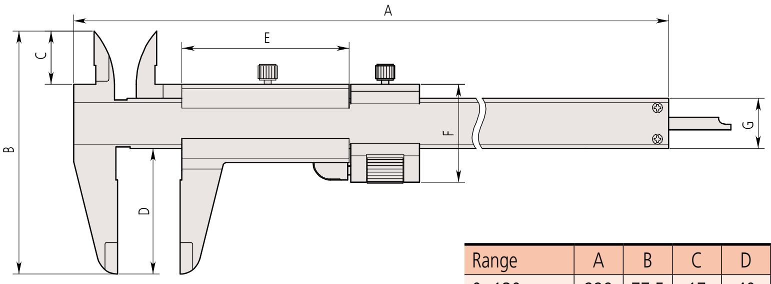
Code No.	Range	Accuracy	Graduation	Price
532-101	0 - 130 mm	±0.03 mm	0.02 mm	**£60.00**
532-102	0 - 180 mm			**£80.00**
532-103	0 - 280 mm	±0.04 mm		**£162.00**

Inch/Metric

Code No.	Range	Accuracy	Graduation	Price
532-119	0 - 130 mm (0 - 5")	±0.03 mm	0.02 mm (.001")	**£60.00**
532-120	0 - 180 mm (0 - 7")			**£80.00**
532-121	0 - 280 mm (0 - 11")	±0.04 mm		**£162.00**

DIMENSIONS

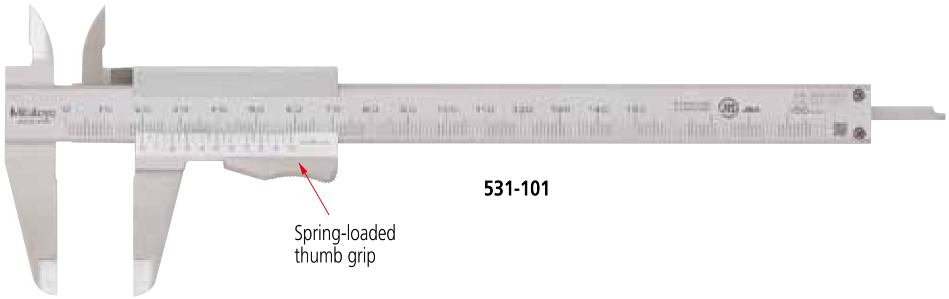
Unit: mm



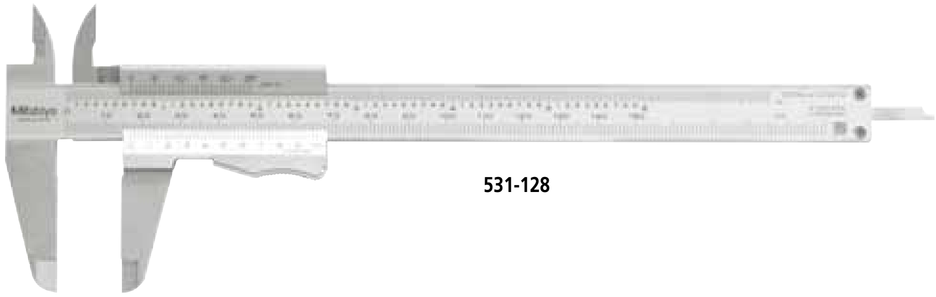
Range	A	B	C	D	E	F	G
0 - 130 mm	229	77.5	17	40	53.5	31.2	16
0 - 180 mm	288	91	20.5	50			
0 - 280 mm	404	111.5	22	64	66.5	38	20

SERIES 531 – Vernier Thumb Clamp Caliper

- The slider moves only when the spring-loaded thumb clamp is depressed.
- Can measure outside and inside dimensions, depth, and steps.



531-101



531-128

SPECIFICATIONS

Metric

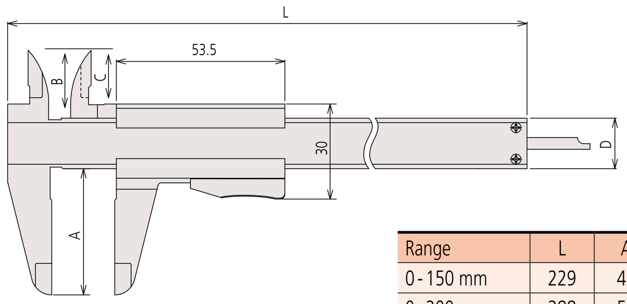
Code No.	Range	Accuracy	Graduation	Remarks	Price
531-101	0 - 150 mm	±0.05 mm	0.05 mm	—	**£46.60**
531-102	0 - 200 mm				**£66.50**
531-103	0 - 300 mm	±0.08 mm			**£162.00**

Inch/Metric

Code No.	Range	Accuracy	Graduation	Remarks	Price
531-128	0 - 150 mm (0 - 6")	±0.03 mm	0.02 mm (.001")	High accuracy model	**£41.30**
531-129	0 - 200 mm (0 - 8")				**£61.20**
531-112	0 - 300 mm (0 - 12")	±0.04 mm			**£158.00**

DIMENSIONS

Unit: mm



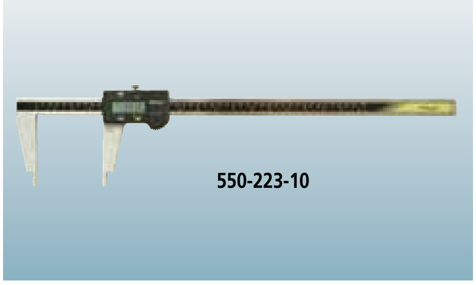
Range	L	A	B	C	D
0 - 150 mm	229	40	21.5	17	16
0 - 200 mm	288	50	25	20.5	
0 - 300 mm	403	64	27.5	22	20

Calipers

SERIES 550 – ABSOLUTE Digimatic Coolant Proof Nib Jaw Caliper

- Offers a resolution of 0.01 mm with corresponding accuracy.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin after switching on.
- Models **550- 311-10** and **550-341-10** are IP67 rated.
- Data output function allows integration into statistical process control and measurement systems.
- ID measurement value: displayed value + (the minimum inside measurement value mentioned below). OFFSET button automatically adds the thickness of the inside jaws to the measured value so that the result can be read directly (**550-311-10** and **550-341-10**). Preset function enables an arbitrary reference value to be added to the measured value for comparison measurements (**550-341-10**).

550-311-10



550-223-10

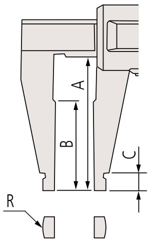
SPECIFICATIONS

Inch/Metric

Code No.	Range*1	Accuracy*2	Remarks	Price
550-311-10	0 - 200 mm / 0 - 8" (10 - 210 mm / .4 - 8.4")	±0.03 mm / ±.0015"	IP67	**£226.00**
550-341-10	0 - 300 mm / 0 - 12" (10 - 310 mm / .4 - 12.4")	±0.05 mm / ±.002"	IP67, with offset/preset function for easy inside measurement	**£347.00**
550-223-10	0 - 450 mm / 0 - 18" (20 - 470 mm / .5 - 18.5")		—	**£487.00**
550-225-10	0 - 600 mm / 0 - 24" (20 - 620 mm / .5 - 24.5")			**£547.00**
550-227-10	0 - 1000 mm / 0 - 40" (20 - 1020 mm / 1 - 41")	±0.07 mm / ±.003"		**£1020.00**

*1 ( ): Inside measurement.
*2 Excluding quantizing error.
Note: Series 550 is not equipped with a depth bar.

DIMENSIONS



Unit: mm

Range	A	B	C	R
0 - 200 mm	60	40.5	8	5
0 - 300 mm	75	50.5	12	
0 - 450 mm	100	65	18	10
0 - 600 mm				
0 - 1000 mm	140	95	24	

Technical Data

Resolution:	0.01 mm (.0005")
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use (1 year: over 300 mm models, 3.5 years: over 300 mm models)
Dust/water protection level:	IP67*3 (models up to 300 mm)

*3 Rustproofing treatment to be applied after use.

Optional Accessories

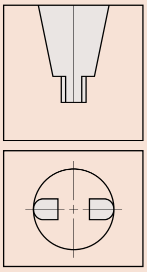
959143: Data hold unit
£17.00

Data cables for **550-311-10** and **550-341-10**

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

Data cables for **550-223-10, 550-225-10** and **550-227-10**

959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

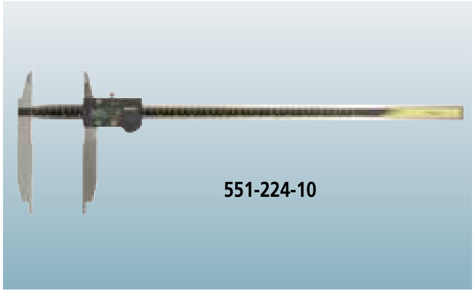


Radiused jaws for accurate ID measurement

SERIES 551 – ABSOLUTE Digimatic Coolant Proof Nib/Standard Jaw Caliper

- Offers a resolution of 0.01 mm with corresponding accuracy.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin after switching on.
- Data output function allows integration into statistical process control and measurement systems.
- ID measurement value: displayed value + (the minimum inside measurement value mentioned below). OFFSET button automatically adds the thickness of the inside jaws to the measured value so that the result can be read directly (**551-311-10** and **551-341-10**). Preset function enables an arbitrary reference value to be added to the measured value for comparison measurements (**551-341-10**).
- Tips of the outside measurement jaw are relieved for easy measurement of thin parts.

551-311-10



551-224-10

Technical Data

Resolution:	0.01 mm (.0005")
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use (1 year: over 300 mm models, 3.5 years: over 300 mm models)
Dust/water protection level:	IP67*[3] (models up to 300 mm)

*[3] Rustproofing treatment to be applied after use.

Optional Accessories

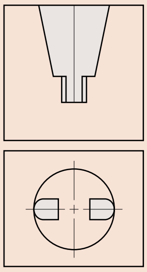
959143:	Data hold unit **£17.00**

Data cables for **551-311-10** and **551-341-10**

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

Data cables for **551-224-10, 551-226-10** and **551-227-10**

959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



Radiused jaws for accurate ID measurement

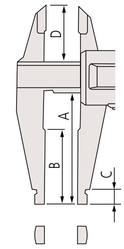
SPECIFICATIONS

Inch/Metric

Code No.	Range*[1]	Accuracy*[2]	Remarks	Price
551-311-10	0-200 mm/0-8" (10-210 mm/.4-8.4")	±0.03 mm/±.0015"	IP67	**£267.00**
551-341-10	0-300 mm/0-12" (10-310 mm/.4-12.4")	±0.04 mm/±.002"	IP67, with offset/preset function for easy inside measurement	**£394.00**
551-224-10	0-500 mm/0-20" (20-520 mm/.5-20.5")	±0.06 mm/±.0025"	—	**£664.00**
551-226-10	0-750 mm/0-30" (20-770 mm/.5-30.5")			**£1060.00**
551-227-10	0-1000 mm/0-40" (20-1020 mm/1-41")	±0.07 mm/±.003"		**£1180.00**

*[1] ( ): Inside measurement.
*[2] Excluding quantizing error.
Note: Series 550 is not equipped with a depth bar.

DIMENSIONS



Unit: mm

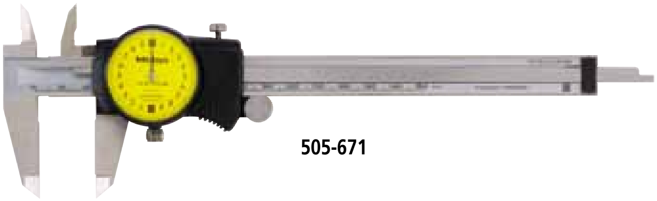
Range	A	B	C	D
0-200 mm	60	43	8	30
0-300 mm	90	68	10	40.1
0-500 mm	150	115	15	56
0-750 mm				
0-1000 mm			20	

Calipers

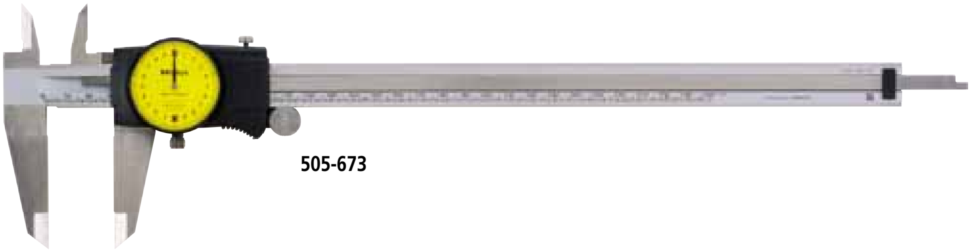
SERIES 505 – Dial Caliper

- Newly designed dial movement for ultra-smooth sliding and high shock protection.
- Titanium coating is applied to the sliding surfaces to enhance durability (except for 0 - 300 mm and 0 - 12" model).
- Easy-to-read yellow dial.
- Large finger rest aids ease of use.
- Jaw tips are relieved for easy measurement of thin parts.
- Can measure outside and inside dimensions, depth, and steps.

PROPRIETARY INSPECTION CERTIFICATE

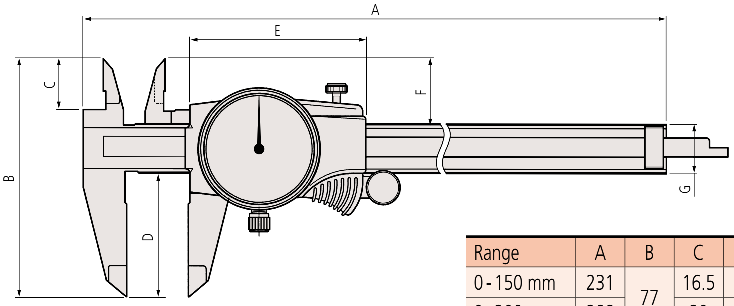

505-671

505-681


505-673

DIMENSIONS

Unit: mm



Range	A	B	C	D	E	F	G
0 - 150 mm	231	77	16.5	40	57.2	21	16
0 - 200 mm	288		20	50		24.5	
0 - 300 mm	404	111.5	22	64	70.2	27.5	20

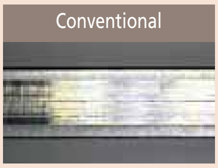
Wear comparison of main scale slider face

Following photos show the condition of sliding surfaces after a sliding test comprising 100,000 movements. Smooth movement over the entire measuring range is assured even when you use a particular part of the sliding surface repeatedly.

Titanium coating

Wear: 0 µm

Conventional


Wear: 4 µm

SPECIFICATIONS

Metric

Code No.	Range	Accuracy	Graduation	Remarks	**Price**
505-671	0 - 150 mm	±0.03 mm	0.02 mm, 2 mm/rev	—	**£93.30**
505-707				Carbide-tipped jaws for outside measurement	**£204.00**
505-711				Carbide-tipped jaws for outside and inside measurement	**£250.00**
505-681		±0.02 mm	0.01 mm, 1 mm/rev	—	**£97.50**
505-685				Silver cover type	**£94.50**
505-672	0 - 200 mm	±0.03 mm	0.02 mm, 2 mm/rev	—	**£124.00**
505-682			0.01 mm, 1 mm/rev		**£124.00**
505-673	0 - 300 mm	±0.04 mm	0.02 mm, 2 mm/rev		**£210.00**

Inch

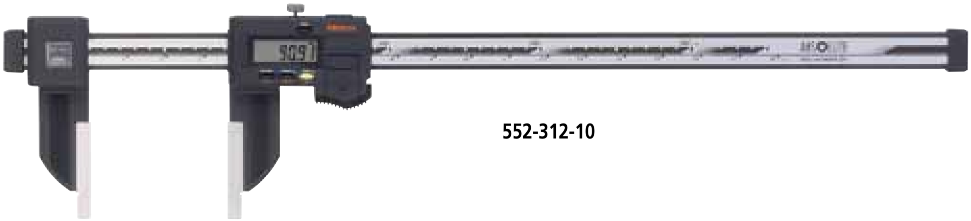
Code No.	Range	Accuracy	Graduation	Remarks	**Price**
505-675	0 - 6"	±.001"	.001", .1"/rev	—	**£93.30**
505-708				Carbide-tipped jaws for outside measurement	**£215.00**
505-712				Carbide-tipped jaws for outside and inside measurement	**£260.00**
505-676	0 - 8"	±.002"		—	**£124.00**
505-690				Silver cover type	**£150.00**
505-709				Carbide-tipped jaws for outside measurement	**£250.00**
505-713				Carbide-tipped jaws for outside and inside measurement	**£320.00**
505-720	0 - 12"		.001", .2"/rev	—	**£210.00**
505-677			.001", .1"/rev	Silver cover type	**£225.00**
505-721			.001", .2"/rev	Carbide-tipped jaws for outside measurement	**£260.00**
505-710			.001", .1"/rev	Carbide-tipped jaws for outside measurement, silver cover type	**£370.00**
505-714				Carbide-tipped jaws for outside and inside measurement, silver cover type	**£530.00**

Calipers

SERIES 552 – ABSOLUTE Digimatic Coolant Proof Carbon Fibre Caliper

- A lightweight Digimatic caliper that uses CFRP (Carbon Fibre Reinforced Plastics) in the beam and jaws.
- Interchangeable measuring jaws available as optional accessories.
- Data output function allows integration into statistical process control and measurement systems.

ABSOLUTE IP66 www.tuv.com TÜVRheinland ID:0000007161



552-312-10

SPECIFICATIONS

Inch/Metric

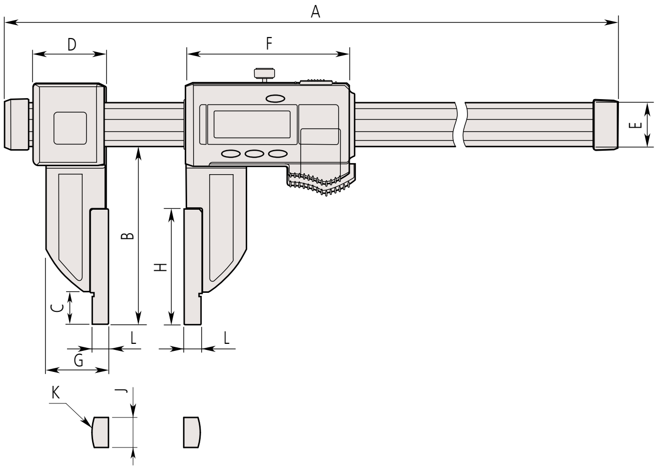
Code No.	Range[*1]	Resolution	Accuracy[*2]	Price
552-312-10	0 (20) - 450 mm / 0 (.5") - 18"	0.01 mm / .0005"	±0.04 mm / ±.002"	**£728.00**
552-313-10	0 (20) - 600 mm / 0 (.5") - 24"			**£756.00**
552-314-10	0 (20) - 1000 mm / 0 (1") - 40"		±0.05 mm / ±.003"	**£1220.00**
552-315-10	0 (20) - 1500 mm / 0 (1") - 60"		±0.09 mm / ±.004"	**£1430.00**
552-316-10	0 (20) - 2000 mm / 0 (1") - 80"		±0.12 mm / ±.005"	**£1880.00**

[*1] ( ): Minimum dimension in inside measurement.

[*2] Excluding quantizing error.

DIMENSIONS

Unit: mm



Range	A	B	C	D	E	F	G	H	J	K	L
0 - 450 mm	640	100	18	41.2	25	91.8	35	65	8	R10	6.35
0 - 600 mm	790										
0 - 1000 mm	1230	150	24	62.8	32	113.8	45	100			12.7
0 - 1500 mm	1740										
0 - 2000 mm	2250										

Technical Data

Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 5,000 hours in continuous use
Dust/water protection level:	IP66[*3]
Standard accessory:	Jaw clamps (2 pcs.), **05GZA033**

[*3] Rustproofing treatment to be applied after use.

Functions

ABSOLUTE system measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The ABS (absolute) origin position can be changed by the ORIGIN button.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider for comparative measurements.

Auto ON/OFF:
The reading on the LCD disappears after this instrument is idle for a short time, but the origin point is retained. Moving the slider causes the reading on the LCD to reappear.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Data hold:
By using the data hold unit (option), the displayed value can be held. This cannot be used with the data output function.

Presetting (ABS INC measurement mode):
Displayed value can be set to any arbitrary value.

Offsetting:
Automatically adds the thickness of the inside jaws to the measured value so that the result can be read directly, without calculation.

Inch/mm selection:
Switches the units of measurement (at any time).

Alerts:
In the unlikely event of a display overflow or calculation error, an error message is displayed and measurement stops. Measurement cannot continue until the error is corrected.
If the battery voltage drops below a certain point, the battery indicator will turn on before measurement becomes impossible, warning the user that the battery needs to be replaced. If contamination on the surface of the scale causes a calculation error, an error message is displayed and measurement stops.

Optional Accessories

05CZA624: SPC data cable with pushbutton (1 m)
£58.50

05CZA625: SPC data cable with pushbutton (2 m)
£70.40

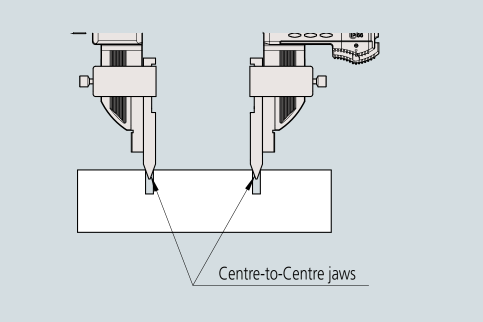
06ADV380A: USB Input Tool Direct USB-ITN-A (2 m)
£106.00

02AZD790A: SPC data cable for U-WAVE-T (160 mm)
£52.20

02AZE140A: SPC data cable for U-WAVE-T and footswitch (160/500 mm)
£114.00

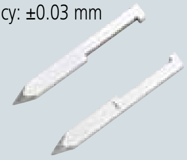
Optional Accessories

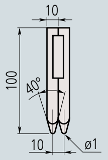
Code No.	Description	Suitable for	Price
914053	Clamp (1 pair)	552-312-10, 552-313-10, 552-165-10 and 552-166-10	**£117.00**
914054	Clamp (1 pair)	552-314-10, 552-315-10 and 552-316-10	**£124.00**
914055	Centre-to-Centre jaws (1 pair)	552-312-10, 552-313-10, 552-314-10, 552-315-10, 552-316-10, 552-165-10 and 552-166-10	**£157.00**
914057	Point jaws		**£179.00**

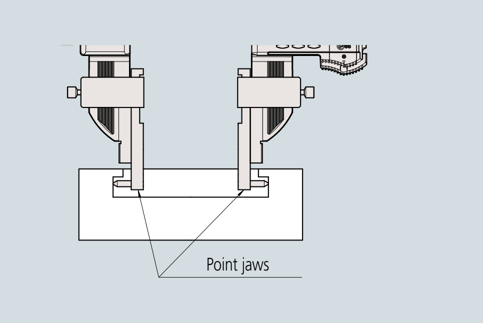


Clamp

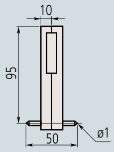
Centre-to-Centre jaws
Accuracy: ±0.03 mm







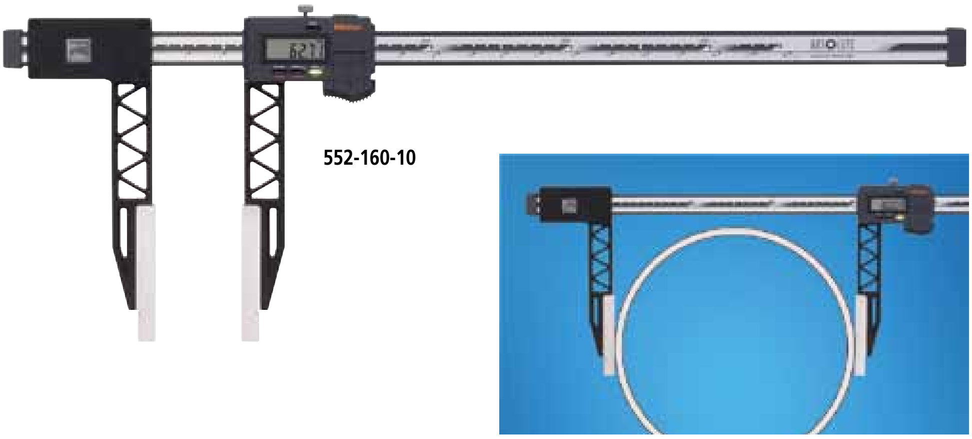
Point jaws
Accuracy: ±0.02 mm



Calipers

SERIES 552 – ABSOLUTE Digimatic Long Jaw Carbon Fibre Caliper

- A lightweight Digimatic caliper that uses CFRP (Carbon Fibre Reinforced Plastics) in the beam and jaws.
- Data output function allows integration into statistical process control and measurement systems.


552-160-10

SPECIFICATIONS

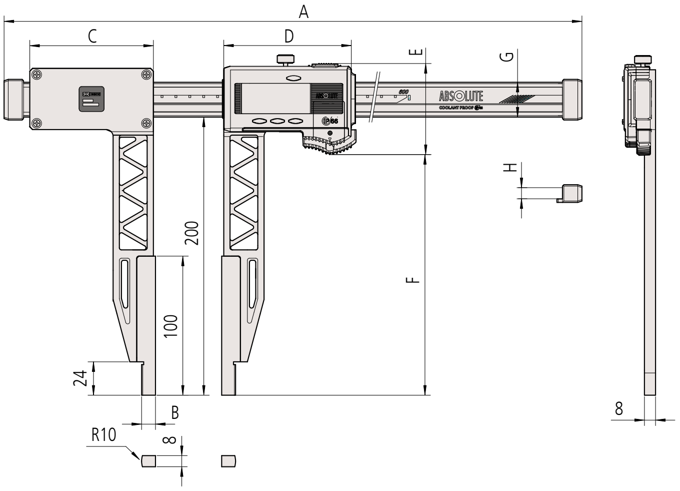
Inch/Metric

Code No.	Range*[1]	Resolution	Accuracy*[2]	Price
552-160-10	0 (20) - 450 mm / 0 (.5") - 18"	0.01 mm / .0005"	±0.06 mm / ±.0025"	**£930.00**
552-161-10	0 (20) - 600 mm / 0 (.5") - 24"			**£1070.00**
552-162-10	0 (20) - 1000 mm / 0 (1") - 40"		±0.07 mm / ±.003"	**£1530.00**
552-163-10	0 (20) - 1500 mm / 0 (1") - 60"		±0.11 mm / ±.0045"	**£1750.00**
552-164-10	0 (20) - 2000 mm / 0 (1") - 80"		±0.14 mm / ±.0055"	**£2230.00**

*[1] ( ): Minimum dimension in inside measurement.
*[2] Excluding quantizing error.

DIMENSIONS

Unit: mm



Range	A	B	C	D	E	F	G	H
0 - 450 mm	680	6.35	89	91.8	65.5	173	25	8
0 - 600 mm	830							
0 - 1000 mm	1280	12.7	110	113.8	73	170.5	32	12
0 - 1500 mm	1790							
0 - 2000 mm	2300							

Technical Data

Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 5,000 hours in continuous use
Dust/water protection level:	IP66*[3]
Standard accessory:	Jaw clamps (2 pcs.), **05GZA033**

*[3] Rustproofing treatment to be applied after use.

Functions

ABSOLUTE system measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The ABS (absolute) origin position can be changed by the ORIGIN button.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider for comparative measurements.

Auto ON/OFF:
The reading on the LCD disappears after this instrument is idle for a short time, but the origin point is retained. Moving the slider causes the reading on the LCD to reappear.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Data hold:
By using the data hold unit (option), the displayed value can be held. This cannot be used with the data output function.

Presetting (ABS INC measurement mode):
Displayed value can be set to any arbitrary value.

Offsetting:
Automatically adds the thickness of the inside jaws to the measured value so that the result can be read directly, without calculation.

Inch/mm selection:
Switches the units of measurement (at any time).

Alerts:
In the unlikely event of a display overflow or calculation error, an error message is displayed and measurement stops. Measurement cannot continue until the error is corrected. If the battery voltage drops below a certain point, the battery indicator will turn on before measurement becomes impossible, warning the user that the battery needs to be replaced. If contamination on the surface of the scale causes a calculation error, an error message is displayed and measurement stops.

Optional Accessories

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

SERIES 552 – ABSOLUTE Digimatic Coolant Proof Ceramic Jaw Carbon Fibre Caliper

- A lightweight Digimatic caliper that uses CFRP (Carbon Fibre Reinforced Plastics) in the beam and jaws.
- Rustless and nonmagnetic. Suitable for measuring magnetic components.
- Zirconia ceramic contact surfaces for high resistance to wear..
- Data output function allows integration into statistical process control and measurement systems.

552-165-10

SPECIFICATIONS

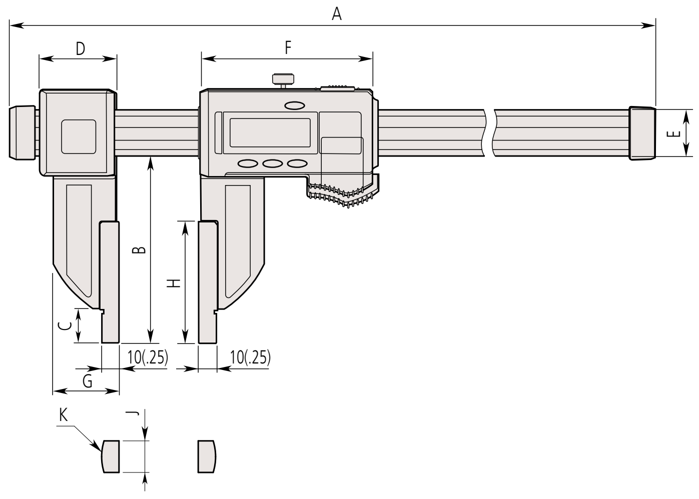
Inch/Metric

Code No.	Range*[1]	Resolution	Accuracy*[2]	Price
552-165-10	0 (20) - 450 mm / 0 (.5") - 18"	0.01 mm / .0005"	±0.04 mm / ±.002"	**£1020.00**
552-166-10	0 (20) - 600 mm / 0 (.5") - 24"			**£1060.00**

*[1] ( ): Minimum dimension in inside measurement.
*[2] Excluding quantizing error.

DIMENSIONS

Unit: mm



Range	A	B	C	D	E	F	G	H	J	K
0 - 450 mm	640	100	18	41.2	25	91.8	35	65	8	R10
0 - 600 mm	790									

Technical Data

Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 5,000 hours in continuous use
Dust/water protection level:	IP66*[3]
Standard accessory:	Jaw clamps (2 pcs.), **05GZA033**

*[3] Rustproofing treatment to be applied after use.

Functions

ABSOLUTE system measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The ABS (absolute) origin position can be changed by the ORIGIN button.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider for comparative measurements.

Auto ON/OFF:
The reading on the LCD disappears after this instrument is idle for a short time, but the origin point is retained. Moving the slider causes the reading on the LCD to reappear.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Data hold:
By using the data hold unit (option), the displayed value can be held. This cannot be used with the data output function.

Presetting (ABS INC measurement mode):
Displayed value can be set to any arbitrary value.

Offsetting:
Automatically adds the thickness of the inside jaws to the measured value so that the result can be read directly, without calculation.

Inch/mm selection:
Switches the units of measurement (at any time).

Alerts:
In the unlikely event of a display overflow or calculation error, an error message is displayed and measurement stops. Measurement cannot continue until the error is corrected. If the battery voltage drops below a certain point, the battery indicator will turn on before measurement becomes impossible, warning the user that the battery needs to be replaced. If contamination on the surface of the scale causes a calculation error, an error message is displayed and measurement stops.

Optional Accessories

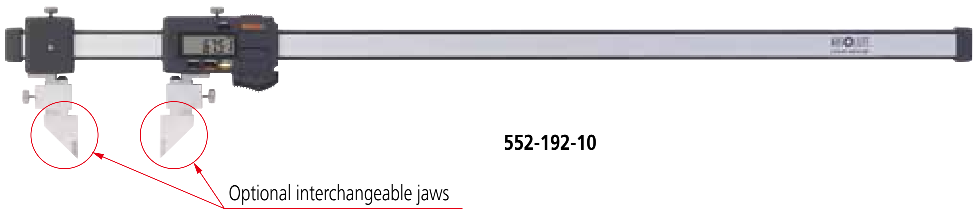
05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**
914053:	Clamp box (1 pair)*[4] **£117.00**
914055:	Centre-to-Centre jaws (1 pair)*[4] **£157.00**
914057:	Point jaws*[4] **£179.00**

*[4] Refer to page D-20 for details.

Calipers

SERIES 552 – ABSOLUTE Digimatic Coolant Proof Interchangeable Jaw Carbon Fibre Caliper

- A lightweight Digimatic caliper that uses CFRP (Carbon Fibre Reinforced Plastics) in the beam and jaws.
- Provided with preset function for setting a desired starting point, which allows direct readout of offset measurement.
- The range of applications can be expanded by using interchangeable jaws (optional).
- Data output function allows integration into statistical process control and measurement systems.



552-192-10

SPECIFICATIONS

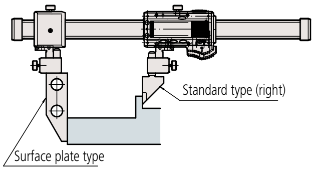
Inch/Metric

Code No.	Range*[1]	Resolution	Accuracy*[1]	Price
552-191-10	0-450 mm/0-18"	0.01 mm/.0005"	±0.04 mm/±.002"	**£750.00**
552-192-10	0-600 mm/0-24"			**£790.00**
552-193-10	0-1000 mm/0-40"			**£1250.00**
552-194-10	0-1500 mm/0-60"		±0.09 mm/±.004"	**£1500.00**
552-195-10	0-2000 mm/0-80"		±0.12 mm/±.005"	**£1950.00**

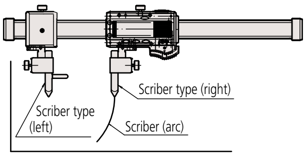
*[1] Excluding quantizing error.

Application examples

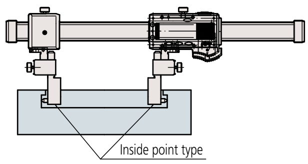
Surface plate type and standard type



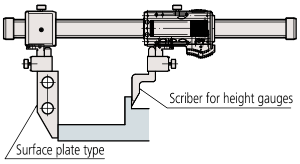
Scriber type



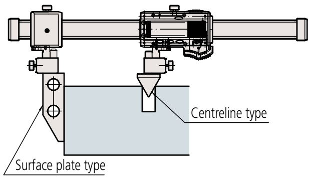
Inside point type



Surface plate type and scriber for height gauges



Surface plate type and centreline type



Technical Data

Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 5,000 hours in continuous use
Dust/water protection level:	IP66*[2]
Standard accessory:	Jaw clamps (2 pcs.), **05GZA033**

*[2] Rustproofing treatment to be applied after use.

Functions

ABSOLUTE system measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The ABS (absolute) origin position can be changed by the ORIGIN button.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider for comparative measurements.

Auto ON/OFF:
The reading on the LCD disappears after this instrument is idle for a short time, but the origin point is retained. Moving the slider causes the reading on the LCD to reappear.

Data output:
Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Data hold:
By using the data hold unit (option), the displayed value can be held. This cannot be used with the data output function.

Presetting (ABS INC measurement mode):
Displayed value can be set to any arbitrary value.

Offsetting:
Automatically adds the thickness of the inside jaws to the measured value so that the result can be read directly, without calculation.

Inch/mm selection:
Switches the units of measurement (at any time).

Alerts:
In the unlikely event of a display overflow or calculation error, an error message is displayed and measurement stops. Measurement cannot continue until the error is corrected. If the battery voltage drops below a certain point, the battery indicator will turn on before measurement becomes impossible, warning the user that the battery needs to be replaced. If contamination on the surface of the scale causes a calculation error, an error message is displayed and measurement stops.

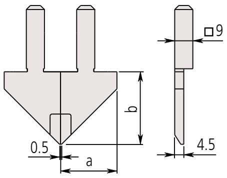
Optional Accessories

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£105.90**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

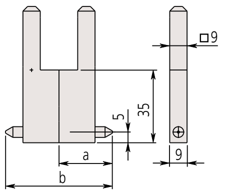
Interchangeable Jaw Dimensions

Unit: mm

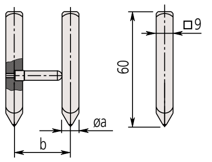
Standard type



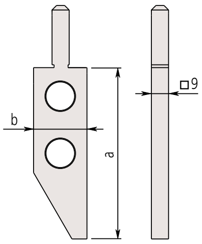
Inside point type



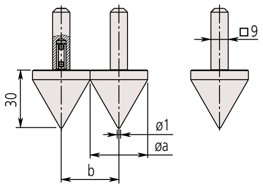
Scriber type



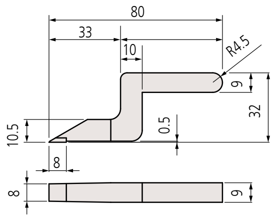
Surface plate type



Centreline type



Scriber for height gauges



Interchangeable Jaw Specifications

Code No.	Components	a	b	**Price**
Standard type				
07CZA056*	2 pcs.	28 mm	30 mm	**£201.00**
Inside point type				
07CZA058*	2 pcs.	25 mm	50 mm	**£240.00**
07CZA059*	2 pcs.	1"	2"	**£240.00**
Scriber type				
07CZA055*	2 pcs.	8 mm	30 mm	**£201.00**
07CZA061*	2 pcs.	.031"	1.2"	**£201.00**

* Individual components available, price on application.

Code No.	Components	a	b	**Price**
Surface plate type				
07CZA044	1 pc.	90 mm	28 mm	**£168.00**
Centreline type				
07CZA057*	2 pcs.	30 mm	30 mm	**£247.00**
07CZA060*	2 pcs.	1.2"	1.2"	**£247.00**
Scriber for height gauges				
07GZA000	1 pc.	—	—	**£34.90**

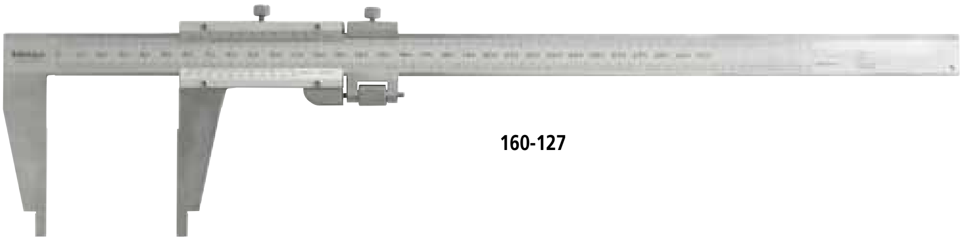
* Individual components available, price on application.

Interchangeable Jaw	Applicable calipers	Range	Accuracy when attached to the caliper
Standard type	552-191-10	0 - 450 mm (0 - 18")	±0.06 mm (±.0025")
	552-192-10	0 - 600 mm (0 - 24")	
	552-193-10	0 - 1000 mm (0 - 40")	±0.07 mm (±.0030")
	552-194-10	0 - 1500 mm (0 - 60")	±0.11 mm(±.0045")
	552-195-10	0 - 2000 mm (0 - 80")	±0.14 mm (±.0055")
Inside point type	552-191-10	Inside: 50 - 500 mm (2 - 20")	±0.09 mm(±.0035")
		Outside: 0 - 450 mm (0 - 18")	
	552-192-10	Inside: 50 - 650 mm (2 - 26")	
		Outside: 0 - 600 mm (0 - 24")	
	552-193-10	Inside: 50 - 1050 mm (2 - 42")	±0.10 mm (±.0040")
		Outside: 0 - 1000 mm (0 - 40")	
	552-194-10	Inside: 50 - 1550 mm (2 - 62")	±0.14 mm (±.0055")
		Outside: 0 - 1500 mm (0 - 60")	
	552-195-10	Inside: 50 - 2050 mm(2 - 82")	±0.17 mm (±.0070")
		Outside: 0 - 2000 mm(0 - 80")	
Centreline type	552-191-10	30 - 480 mm (1.2 - 19.2")	±0.08 mm (±.0030")
	552-192-10	30 - 630 mm (1.2 - 25.2")	
	552-193-10	30 - 1030 mm (1.2 - 41.2")	±0.09 mm (±.0035")
	552-194-10	30 - 1530 mm (1.2 - 61.2")	±0.13 mm(±.0055")
	552-195-10	30 - 2030 mm (1.2 - 81.2")	±0.16 mm (±.0065")
Scriber type	552-191-10	30 - 480 mm (1.2 - 19.2")	±0.10 mm (±.0040")
	552-192-10	30 - 630 mm (1.2 - 25.2")	
	552-193-10	30 - 1030 mm (1.2 - 41.2")	±0.11 mm (±.0045")
	552-194-10	30 - 1530 mm (1.2 - 61.2")	±0.15 mm (±.0060")
	552-195-10	30 - 2030 mm (1.2 - 81.2")	±0.18 mm (±.0070")
Surface plate type and scriber type for height gauges	552-191-10	0 - 450 mm (0 - 17.7")	±0.10 mm(±.0040")
	552-192-10	0 - 600 mm (0 - 23.7")	
	552-193-10	0 - 1000 mm (0 - 39.4")	±0.11 mm (±.0045")
	552-194-10	0 - 1500 mm (0 - 59.4")	±0.15 mm (±.0060")
	552-195-10	0 - 2000 mm (0 - 79.6")	±0.18 mm (±.0070")
Surface plate type and inside point type	552-191-10	Inside: 25 - 475 mm (1 - 19")	±0.12 mm (±.0050")
		Outside: 0 - 450 mm (1 - 18")	
	552-192-10	Inside: 25 - 625 mm (1 - 25")	
		Outside: 0 - 600 mm (1 - 24")	
	552-193-10	Inside: 25 - 1025 mm (1 - 41")	±0.13 mm (±.0055")
		Outside: 0 - 1000 mm (1 - 40")	
	552-194-10	Inside: 25 - 1525 mm (1 - 62")	±0.17 mm (±.0070")
		Outside: 0 - 1500 mm (1 - 60")	
	552-195-10	Inside: 25 - 2025 mm (1 - 81")	±0.20 mm (±.0080")
		Outside: 0 - 2000 mm (1 - 80")	
Surface plate type and centreline type	552-191-10	15 - 465 mm (0.6 - 18.6")	±0.11 mm (±.0045")
	552-192-10	15 - 615 mm (0.6 - 24.6")	
	552-193-10	15 - 1015 mm (0.6 - 40.6")	±0.12 mm (±.0050")
	552-194-10	15 - 1515 mm (0.6 - 60.6")	±0.16 mm (±.0065")
	552-195-10	15 - 2015 mm (0.6 - 80.6")	±0.19 mm (±.0075")

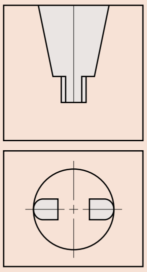
Calipers

SERIES 160 – Vernier Nib Jaw Thumbwheel Caliper

- Inside and outside measurements can be read directly from the upper and lower vernier scales.
- The jaws have radiused measuring faces for accurate inside diameter (ID) measurement.



160-127



Radiused jaws for accurate ID measurement

SPECIFICATIONS

Metric

Code No.	Range*	Accuracy	Graduation	Remarks	Price
160-127	0 (10) - 300 mm	±0.04 mm	0.02 mm	—	**£220.00**
160-128	0 (20) - 450 mm	±0.05 mm			**£333.00**
160-101	0 (20) - 600 mm				**£360.00**
160-104	0 (20) - 1000 mm	±0.07 mm			**£687.00**

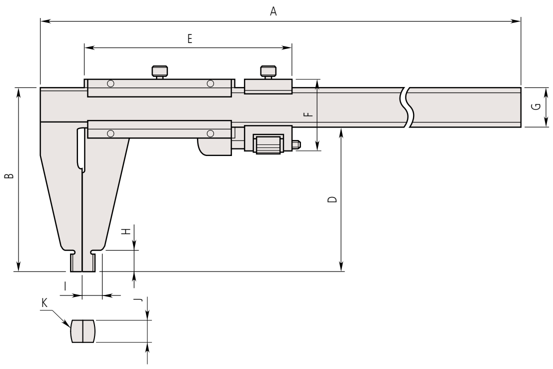
Inch/Metric

Code No.	Range*	Accuracy	Graduation	Remarks	Price
160-125	0 (10) - 300 mm/ 0 (.3) - 12"	±0.04 mm/ ±.0015"	0.02 mm/ .001"	+.3"/7.62 mm to reading in inside measurement	**£220.00**
160-119	0 (20) - 450 mm/ 0 (.5) - 18"	±0.05 mm/ ±.002"		+.5"/12.7 mm to reading in inside measurement	**£333.00**
160-103	0 (20) - 600 mm/ 0 (.5) - 24"				**£360.00**
160-106	0 (20) - 1000 mm/ 0 (1) - 40"	±0.07 mm/ ±.003"		+1"/25.4 mm to reading in inside measurement	**£687.00**
160-112	0 (20) - 1500 mm/ 0 (1) - 60"	±0.1 mm/ ±.004"			**£1470.00**
160-115	0 (20) - 2000 mm/ 0 (1) - 80"	±0.12 mm/ ±.005"			**£2470.00**

*( ): Minimum measurable inside dimension.

DIMENSIONS

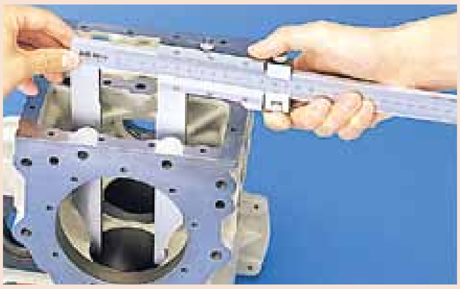
Unit: mm

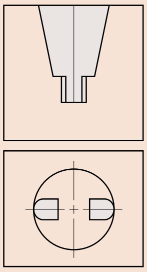


Range	A	B	D	E	F	G	H	I	J	K
0 - 300 mm	445	95	75	103	38	20	12	10	3.8	R5
0 - 450 mm	630	125	100	112	51	25	18	14.8	6	R10
0 - 600 mm	780									
0 - 1000 mm	1240	172	140	150	62.5	32	24	17	8	
0 - 1500 mm	1800	212	180	170			30	19		
0 - 2000 mm	2300	220		180	78	40		23	12	

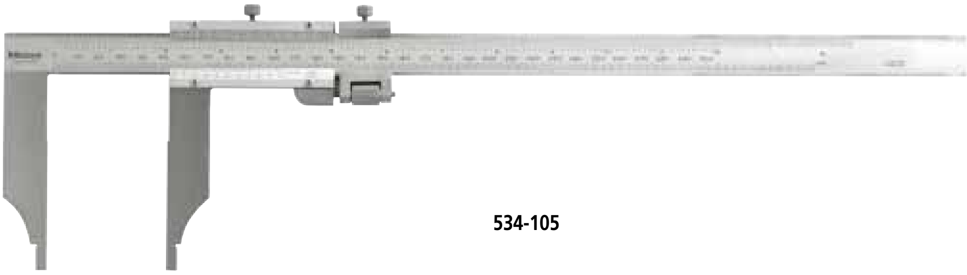
SERIES 534 – Vernier Long Jaw Thumbwheel Caliper

- Long jaws for measuring hard-to-reach workpiece features.
- Inside and outside measurements can be read directly from the upper and lower vernier scales.
- The jaws have radiused measuring faces for accurate inside diameter (ID) measurement.





Radiused jaws for accurate ID measurement



534-105

SPECIFICATIONS

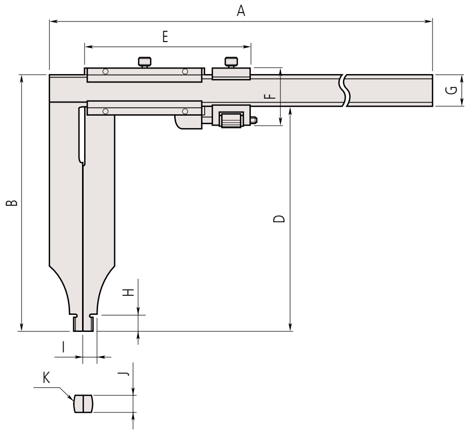
Inch/Metric

Code No.	Range*	Accuracy	Graduation	Remarks	**Price**
534-105	0 (10) - 300 mm / 0 (.3) - 12"	±0.04 mm / ±.0015"	0.02 mm / .001"	+10 mm / .394" to reading in inside measurement	**£221.00**
534-106	0 (20) - 500 mm / 0 (.8) - 20"	±0.06 mm / ±.0025"		+20 mm / .787" to reading in inside measurement	**£521.00**
534-107	0 (20) - 750 mm / 0 (.8) - 30"	±0.08 mm / ±.003"			**£737.00**
534-108	0 (20) - 1000 mm / 0 (1) - 40"	±0.1 mm / ±.004"			**£989.00**

*( ): Minimum measurable inside dimension.

DIMENSIONS

Unit: mm

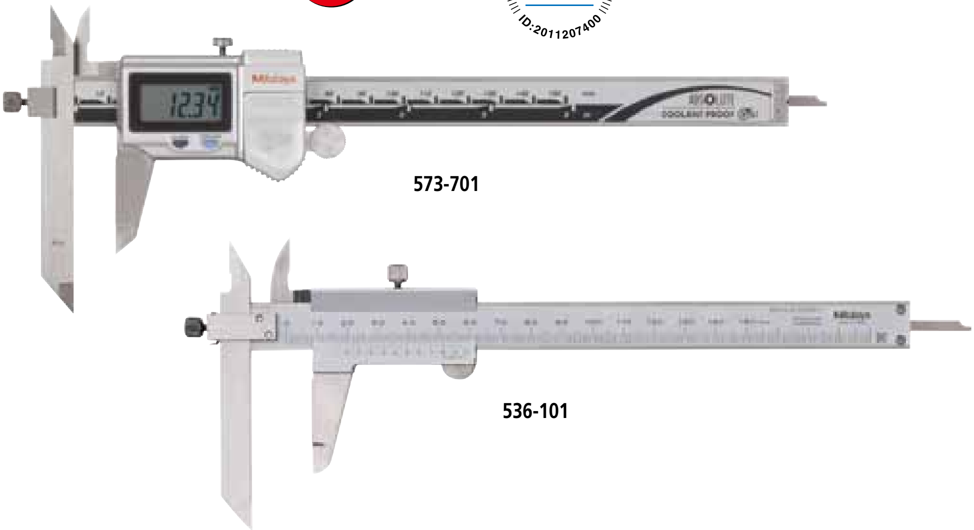


Range	A	B	D	E	F	G	H	I	J	K
0 - 300 mm	445	110	90	103	38	20	12	7	3.8	R5
0 - 500 mm	682	225	200	112	51	25	18.5	12	6	R10
0 - 750 mm	995	232		150	62.5	32			8	
0 - 1000 mm	1230									

Calipers

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Offset Jaw Caliper
SERIES 536 – Vernier Offset Jaw Caliper

- The beam-mounted jaw can be adjusted to facilitate measurement of stepped sections and hard-to-get-at workpiece features.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.


573-701

536-101

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*1	**Price**
ABSOLUTE Digimatic type				
573-701	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm (±.001")	**£298.00**
573-702	0 - 200 mm (0 - 8")			**£394.00**
573-704	0 - 300 mm (0 - 12")		±0.03 mm (±.0015")	**£470.00**

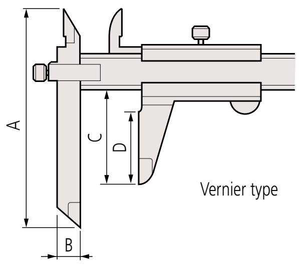
Metric

Code No.	Range	Graduation	Accuracy	**Price**
Vernier type				
536-101	0 - 150 mm	0.05 mm	±0.05 mm	**£180.00**
536-102	0 - 200 mm			**£212.00**
536-103	0 - 300 mm		±0.08 mm	**£310.00**

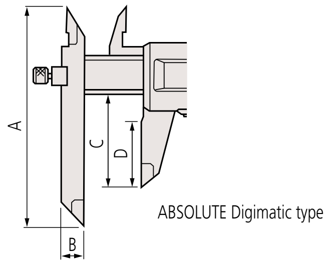
*1 Excluding quantizing error.

DIMENSIONS

Unit: mm



Vernier type



ABSOLUTE Digimatic type

Range	A	B	C	D
0 - 150 mm	95	10	40	30
0 - 200 mm			50	38.5
0 - 300 mm	135	15	64	51

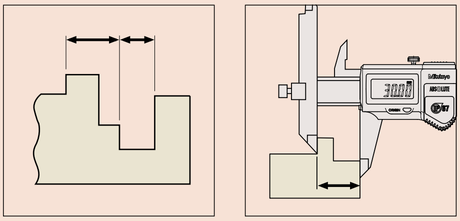
Technical Data for 573 series

Dust/water protection level:	IP67*2
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use (1 year: 300 mm model)

*2 Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

959143:	Data hold unit **£17.00**
05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**


Application example

Technical Data for 573 series

Dust/water protection level:	IP67*2
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use (1 year: 300 mm model)

*2 Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

959143:	Data hold unit **£17.00**
05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
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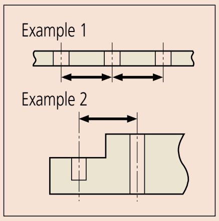
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

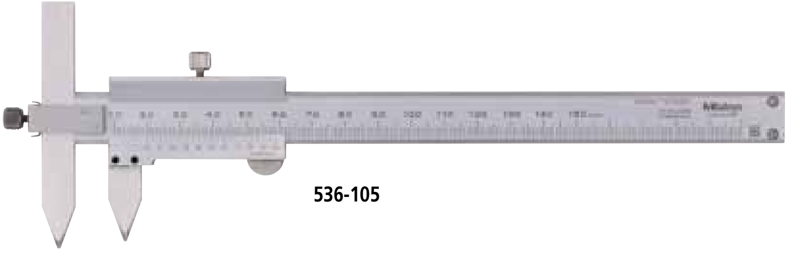


Application example

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Offset Centreline Caliper
SERIES 536 – Vernier Offset Centreline Caliper

- Specially designed for hole Centre-to-Centre measurements on the same, or offset, planes.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Direct reading of pitch measurements is available due to the offset-value setting function.
- Digimatic models enable integration into statistical process control and measurement systems.

573-705



536-105

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*1	Price
ABSOLUTE Digimatic type				
573-705	10 - 160 mm (.4 - 6.4")	0.01 mm (.0005")	±0.03 mm (±.0015")	**£309.00**
573-706	10 - 210 mm (.4 - 8.4")			**£339.00**
573-708	10 - 310 mm (.4 - 12.4")		±0.04 mm (±.0015")	**£487.00**

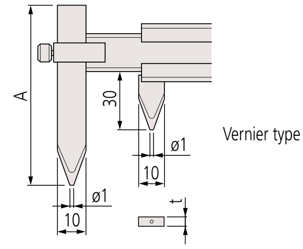
Metric

Code No.	Range	Graduation	Accuracy	Price
Vernier type				
536-105	10 - 150 mm	0.05 mm	±0.05 mm	**£220.00**
536-106	10 - 200 mm			**£280.00**
536-107	10 - 300 mm		±0.08 mm	**£316.00**

*1 Excluding quantizing error.

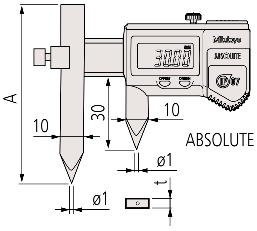
DIMENSIONS

Unit: mm



Vernier type

Range	A	t
10 - 150 mm	75	3
10 - 200 mm		
10 - 300 mm	100	3.8



ABSOLUTE Digimatic type

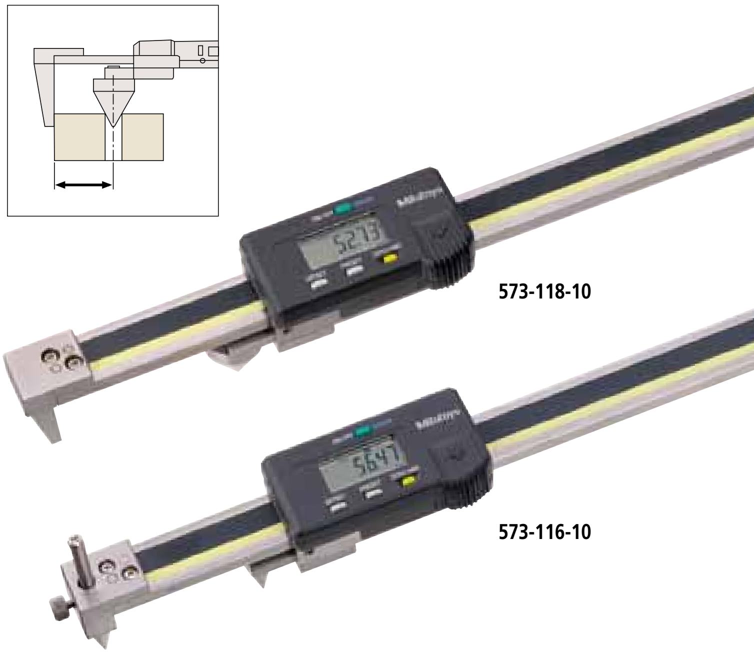
Range	A	t
10 - 160 mm	75	3.5
10 - 210 mm		
10 - 310 mm	100	3.8

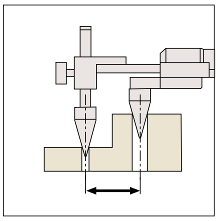
Calipers

SERIES 573 – ABSOLUTE Digimatic Back Jaw Centreline Caliper

- Specially designed to measure hole Centre-to-Centre and Edge-to-Centre distances.
- Provided with jaws on the back of the slider, measurements can be read easily from above.
- Direct reading of pitch measurements is possible due to the offset-value setting function.
- Data output function allows integration into statistical process control and measurement systems.
- Dedicated calibration inspection tools are available.

ABSOLUTE


573-118-10
573-116-10


Application example

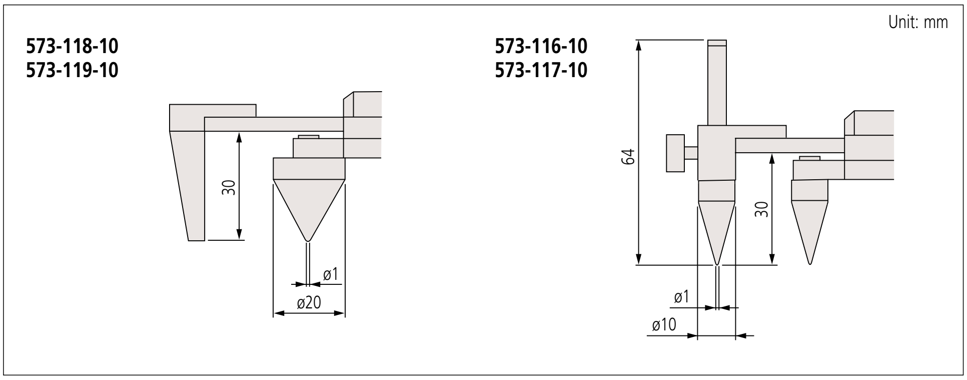
SPECIFICATIONS

Metric

Code No.	Range	Resolution	Accuracy*[1]	**Price**
Edge-to-Centre type				
573-118-10	10 - 200 mm	0.01 mm	±0.1 mm	**£700.00**
573-119-10	10 - 300 mm		±0.15 mm	**£840.00**
Centre-to-Centre type				
573-116-10	10 - 200 mm	0.01 mm	±0.1 mm	**£700.00**
573-117-10	10 - 300 mm		±0.15 mm	**£840.00**

*[1] Excluding quantizing error.

DIMENSIONS


Unit: mm
573-118-10
573-119-10
30
ø1
ø20
573-116-10
573-117-10
64
30
ø1
ø10

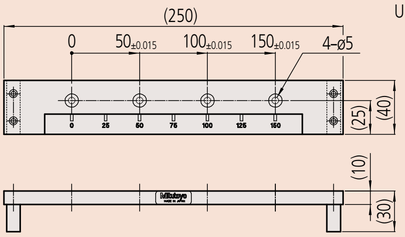
Technical Data

Scale type:	ABSOLUTE electrostatic linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3.5 years under normal use

Optional Accessories

959143:	Data hold unit **£17.00**
959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-C (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**
05FAJ735:	Centreline caliper inspection gauge **£875.00**

Unit: mm


(250)
0
50±0.015
100±0.015
150±0.015
4-ø5
0
25
50
75
100
125
150
(25)
(40)
(10)
(30)
Mitutoyo

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Point Caliper
SERIES 536 – Vernier Point Caliper

Technical Data for 573 series

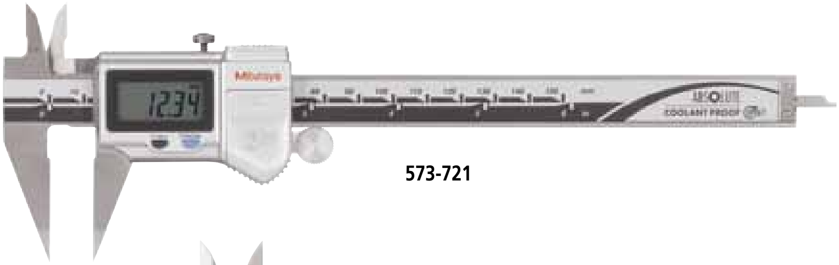
Dust/water protection level:	IP67*[2]
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use

*[2] Rustproofing treatment to be applied after use.

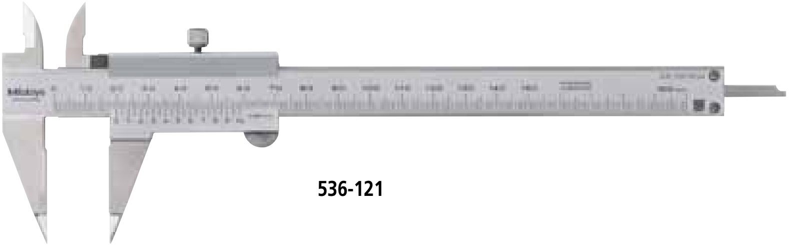
Optional Accessories for 573 series

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

- Narrow-tip jaws fit into very small grooves and tracks, making many previously difficult outside measurements far easier to obtain.
- Can measure outside and inside dimensions, depth, and steps.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.



573-721



536-121

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*[1]	Price
ABSOLUTE Digimatic type				
573-721	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm (±.001")	**£240.00**
573-725				**£290.00**

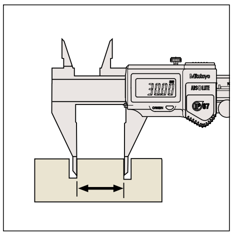
Metric

Code No.	Range	Graduation	Accuracy	Price
Vernier Type				
536-121	0 - 150 mm	0.05 mm	±0.05 mm	**£137.00**

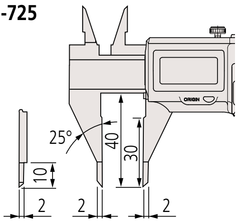
*[1] Excluding quantizing error.

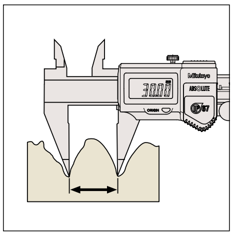
DIMENSIONS

Unit: mm

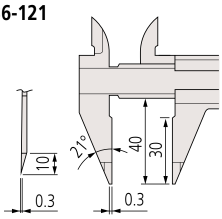


573-725

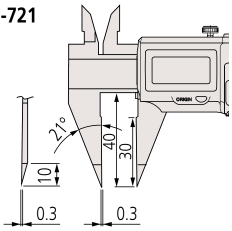




536-121



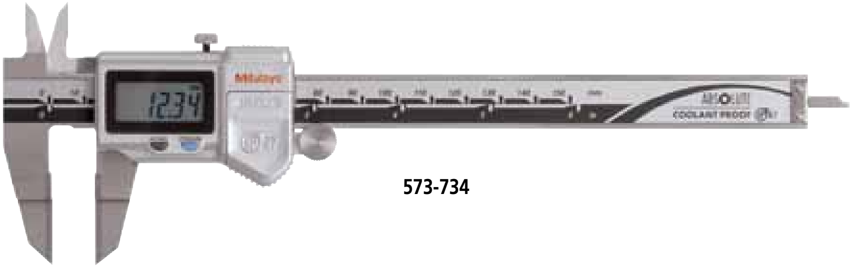
573-721



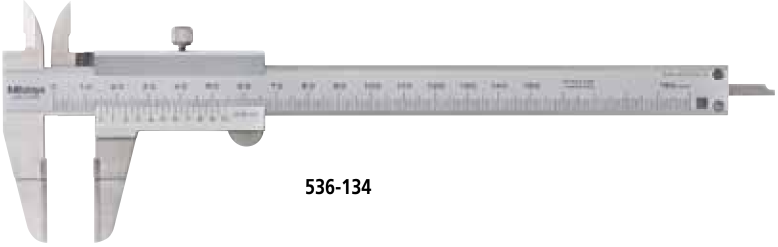
Calipers

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Blade Caliper
SERIES 536 – Vernier Blade Caliper

- The thin blade-type jaws fit into very small grooves and make previously difficult outside measurements far easier to obtain.
- The outside measuring faces are carbide tipped.
- Can measure outside and inside dimensions, depth, and steps.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.



573-734



536-134

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*[1]	Price
ABSOLUTE Digimatic type				
573-734	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm (±.001")	**£360.00**

Metric

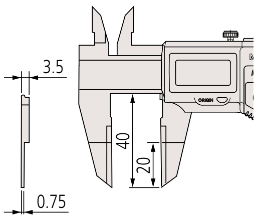
Code No.	Range	Graduation	Accuracy	Price
Vernier type				
536-134	0 - 150 mm	0.05 mm	±0.05 mm	**£280.00**
536-135	0 - 200 mm			**£326.00**
536-136	0 - 300 mm		±0.08 mm	**£356.00**

*[1] Excluding quantizing error.

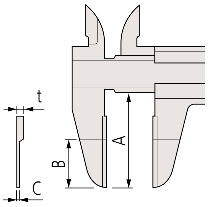
DIMENSIONS

Unit: mm

ABSOLUTE Digimatic type



Vernier type



Range	A	B	C	t
0 - 150 mm	40	20	0.75	3
0 - 200 mm	50	25		
0 - 300 mm	64	30	1	3.8

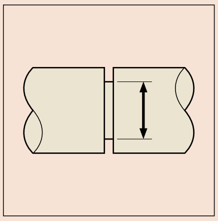
Technical Data for 573 series

Dust/water protection level:	IP67*[2]
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use

*[2] Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



Application example

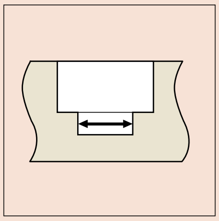
Technical Data for 573 series

Dust/water protection level:	IP67*2
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use

*2 Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



Application example

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Knife Edge Inside Caliper
SERIES 536 – Vernier Knife Edge Inside Caliper

- Specially designed for inside measurements in hard-to-reach places.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.

573-742

536-142

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*1	Min. measurable hole	Price
ABSOLUTE Digimatic type					
573-742	10 - 200 mm (.4 - 8")	0.01 mm (.0005")	±0.05 mm (±.002")	ø10 mm (ø.4")	**£480.00**

Metric

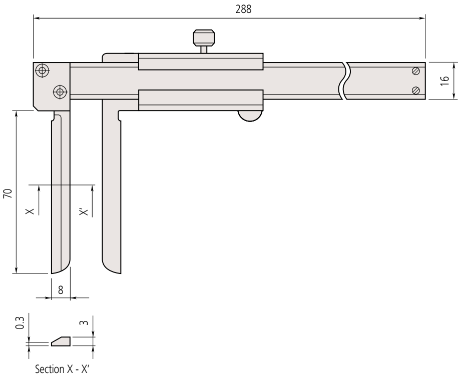
Code No.	Range	Graduation	Accuracy	Min. measurable hole	Price
Vernier type					
536-142	10 - 200 mm	0.05 mm	±0.12 mm	ø10 mm	**£410.00**

*1 Excluding quantizing error.

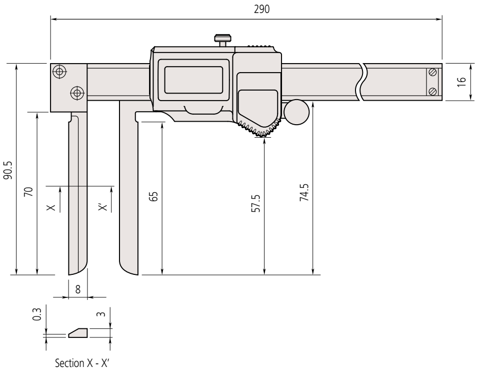
DIMENSIONS

Unit: mm

536-142



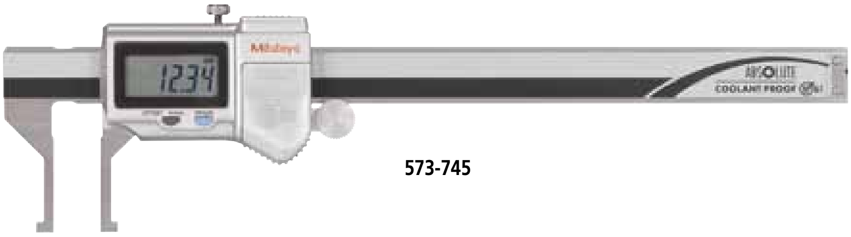
573-742



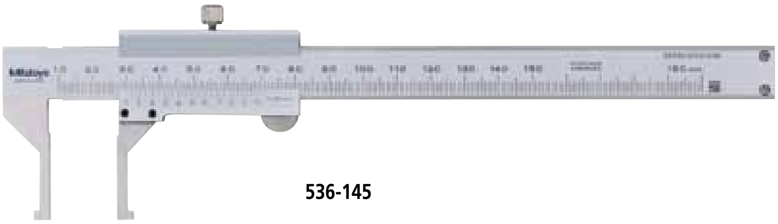
Calipers

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Inside Groove Caliper
SERIES 536 – Vernier Inside Groove Caliper

- Specially designed for inside measurements in hard-to-reach places.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.



573-745



536-145

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*[1]	Min. measurable hole	Price
ABSOLUTE Digimatic type					
573-745*[2]	10 - 160 mm (.4 - 6")	0.01 mm (.0005")	±0.05 mm (±.002")	ø10 mm (ø.4")	**£358.00**

Metric

Code No.	Range	Graduation	Accuracy	Min. measurable hole	Price
Vernier type					
536-145	10 - 150 mm	0.05 mm	±0.05 mm	ø10 mm	**£316.00**

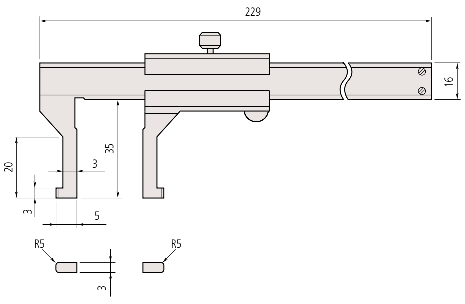
*[1] Excluding quantizing error.

*[2] Equipped with the offsetting function, which indicates the actual measurement value.

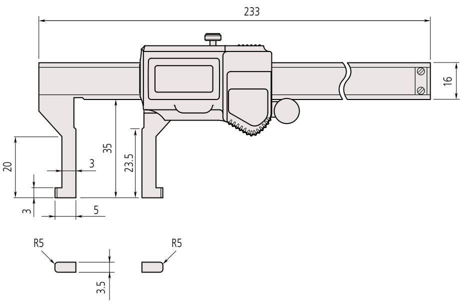
DIMENSIONS

Unit: mm

536-145



573-745



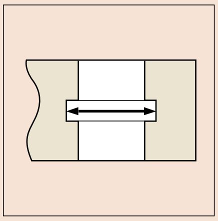
Technical Data for 573 series

Dust/water protection level:	IP67*[3]
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use

*[3] Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



Application example

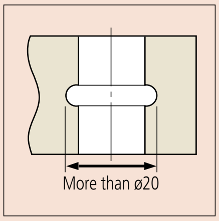
Technical Data for 573 series

Dust/water protection level:	IP67*3
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use

*3 Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

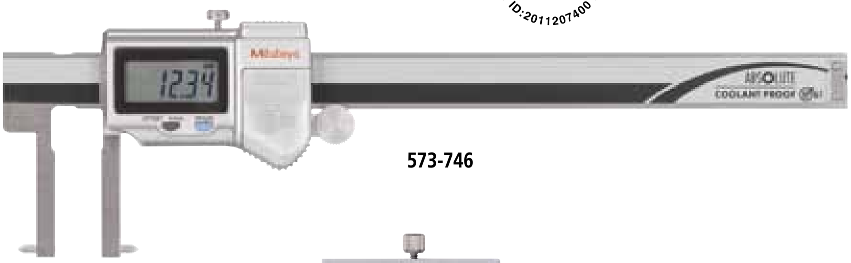
05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



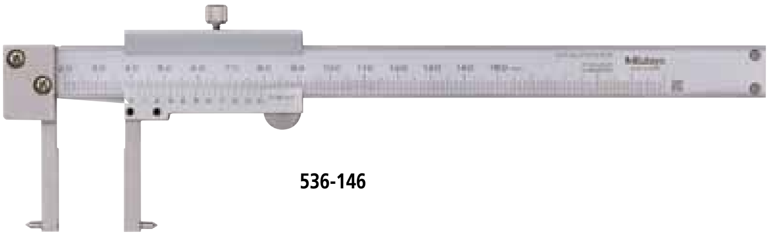
Application example

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Point Jaw Inside Caliper
SERIES 536 – Vernier Point Jaw Inside Caliper

- Specially designed for inside measurements in hard-to-reach places.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.



573-746



536-146

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*1	Min. measurable hole	Price
ABSOLUTE Digimatic type					
573-746*2	20 - 170 mm (.8 - 6")	0.01 mm (.0005")	±0.03 mm (±.0015")	ø20 mm (ø.8")	**£472.00**

Metric

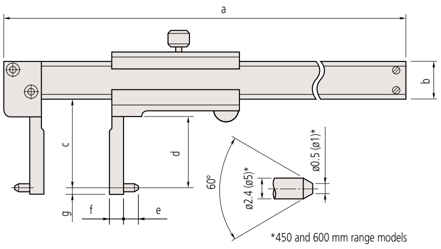
Code No.	Range	Graduation	Accuracy	Min. measurable hole	Price
Vernier type					
536-146	20 - 150 mm	0.05 mm	±0.05 mm	ø20 mm	**£419.00**
536-147	30 - 300 mm		±0.08 mm	ø30 mm	**£548.00**
536-148	70 - 450 mm		±0.10 mm	ø70 mm	**£1060.00**
536-149	70 - 600 mm		±0.12 mm		**£1100.00**

*1 Excluding quantizing error.
*2 Equipped with the offsetting function, which indicates the actual measurement value.

DIMENSIONS

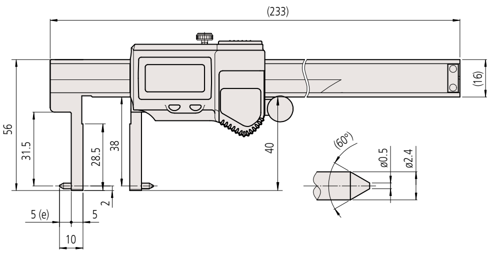
Unit: mm

Vernier type



*450 and 600 mm range models

ABSOLUTE Digimatic type



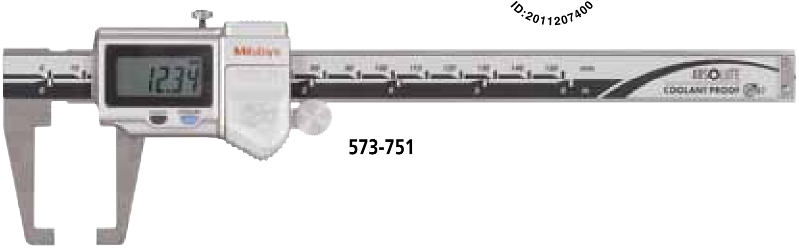
Range	a	b	c	d	e	f	g
20 - 150 mm	229	16	38	31	5	5	2
30 - 300 mm	403	20	98	89		10	
70 - 450 mm	610	25	145	136	10	25	5
70 - 600 mm	750						

Calipers

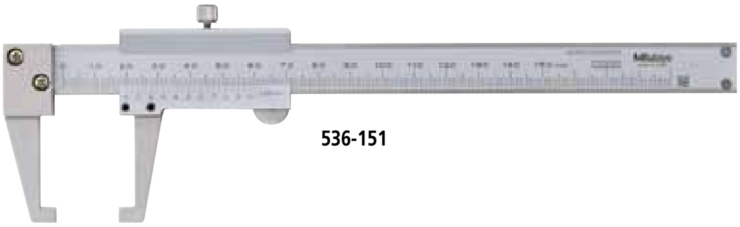
SERIES 573 – ABSOLUTE Digimatic Coolant Proof Neck Jaw Caliper
SERIES 536 – Vernier Neck Jaw Caliper

- Can measure wall thickness inside bores and recesses.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.

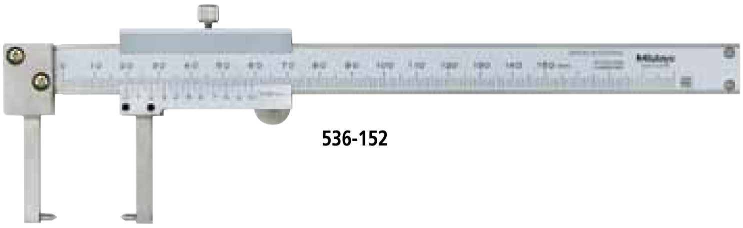
ABSOLUTE IP67 www.tuv.com TÜVRheinland ID:2011207400



573-751



536-151



536-152

SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*[1]	Remarks	Price
ABSOLUTE Digimatic type					
573-751	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.03 mm (±.0015")	—	**£377.00**
573-752				Point type	**£464.00**

Metric

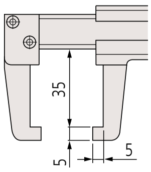
Code No.	Range	Graduation	Accuracy		Price
Vernier type					
536-151	0 - 150 mm	0.05 mm	±0.05 mm	—	**£270.00**
536-152				Point type	**£324.00**

*[1] Excluding quantizing error.

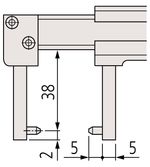
DIMENSIONS

Unit: mm

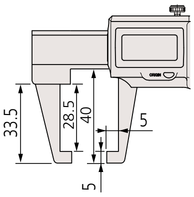
536-151



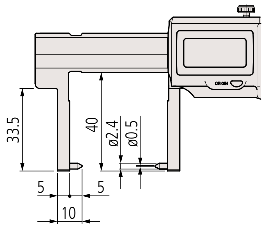
536-152



573-751



573-752



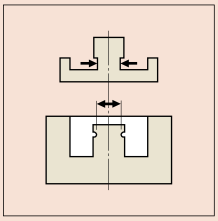
Technical Data for 573 series

Dust/water protection level:	IP67*[2]
Scale type:	ABSOLUTE electromagnetic induction linear encoder
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use

*[2] Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



Application examples

SERIES 573 – ABSOLUTE Digimatic Coolant Proof Tube Thickness Caliper
SERIES 536 – Vernier Tube Thickness Caliper

- The beam-mounted jaw is a round bar that facilitates measurements of tube wall thickness.
- Digimatic models feature Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Digimatic models enable integration into statistical process control and measurement systems.

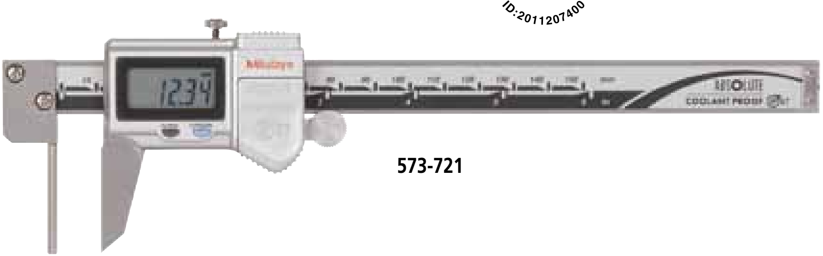
Technical Data for 573 series

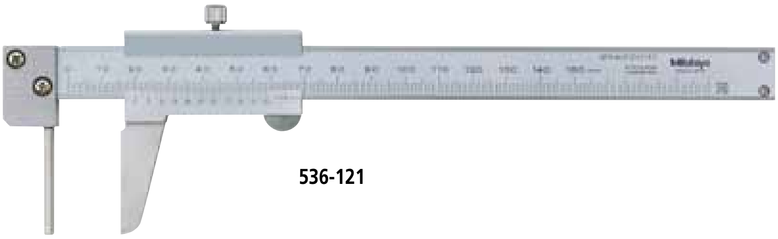
Dust/water protection level: IP67*[2]
Scale type: ABSOLUTE electromagnetic induction linear encoder
Max. response speed: Unlimited
Battery: SR44 (1 pc.), **938882**
Battery life: Approx. 3 years under normal use

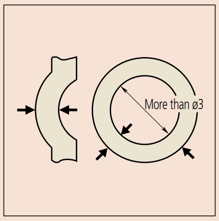
*[2] Rustproofing treatment to be applied after use.

Optional Accessories for 573 series

05CZA624: SPC data cable with pushbutton (1 m) **£58.50**
05CZA625: SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A: USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A: SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A: SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**


573-721


536-121



Application examples

SPECIFICATIONS

Inch/Metric

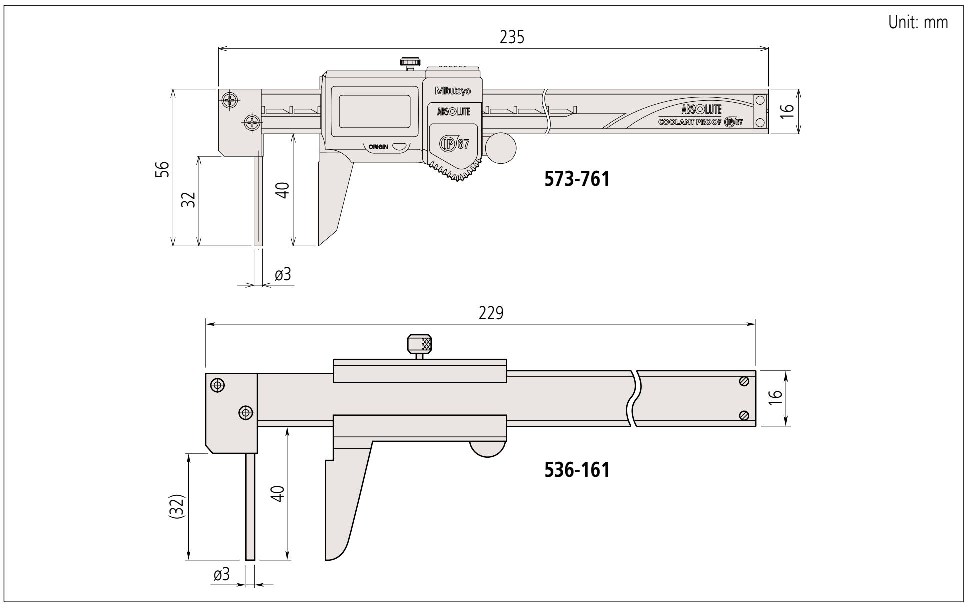
Code No.	Range	Resolution	Accuracy*[1]	Price
ABSOLUTE Digimatic type				
573-761	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.05 mm (±.002")	**£312.00**

Metric

Code No.	Range	Graduation	Accuracy	Price
Vernier type				
536-161	0 - 150 mm	0.05 mm	±0.05 mm	**£247.00**

*[1] Excluding quantizing error.

DIMENSIONS



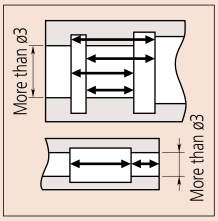
Calipers

SERIES 536 – Vernier Hook Jaw Caliper

- Can measure width of grooves and lands inside bores and recesses.

536-171

536-172
Inside-groove type


More than ø3
More than ø3

Application examples

SPECIFICATIONS

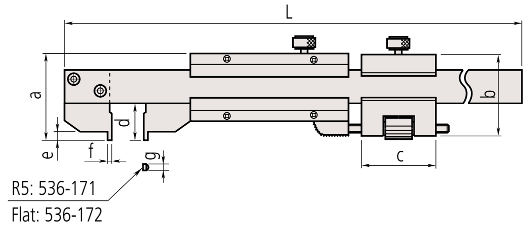
Metric

Code No.	Range	Graduation	Accuracy	Remarks	Price
536-171	0 (10) - 200 mm	0.02 mm	±0.03 mm	—	**£382.00**
536-172	0 (20) - 200 mm			With fine adjustment	**£395.00**

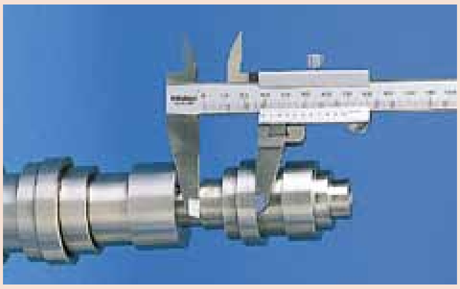
* ( ): Minimum dimension in inside measurement.

DIMENSIONS

Unit: mm

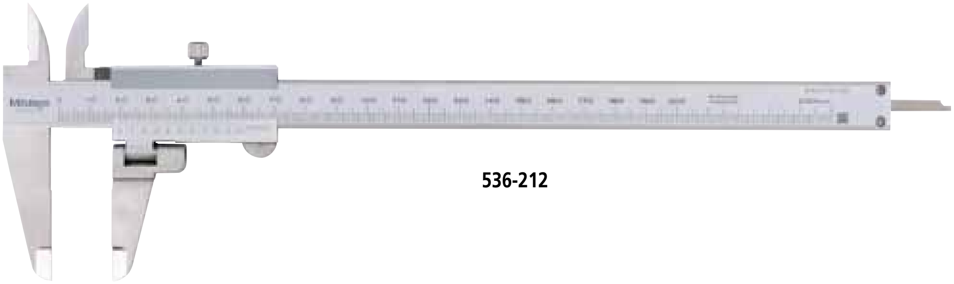

L
a
b
c
d
e
f
g
R5: 536-171
Flat: 536-172

Code No.	L	a	b	c	d	e	f	g
536-171	320	28	—	—	12	4	5	3.5
536-172			28.5	20			1	



SERIES 536 – Vernier Moving Jaw Caliper

- The moving jaw can be rotated to measure sectioned shafts.
- Can measure outside and inside dimensions, depth, and steps.



536-212

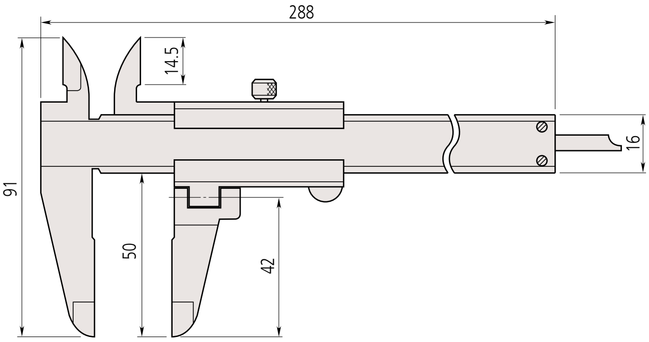
SPECIFICATIONS

Metric

Code No.	Range	Graduation	Accuracy	Price
536-212	0 - 200 mm	0.05 mm	±0.05 mm	**£327.00**

DIMENSIONS

Unit: mm

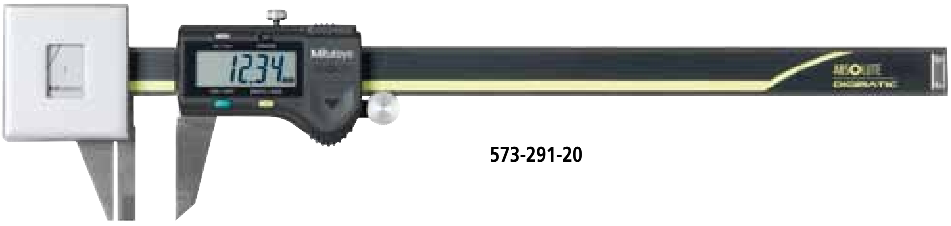


Calipers

SERIES 573 – ABSOLUTE Digimatic Low Force Caliper

- Due to the low measuring force, this caliper is ideal for measuring elastic workpieces such as plastic parts and rubber parts that standard calipers cannot measure accurately.
- The thumb roller allows smooth and easy fine adjustment.
- Movement of main scale jaw is 0.3 mm.
- Measuring force: 0.49 to 0.98 N (50 to 100 gf)
- Features Mitutoyo's ABSOLUTE system. No need to reset the origin after switching on.
- Slider operation is smooth and comfortable.
- Data output function allows integration into statistical process control and measurement systems.

ABSOLUTE



573-291-20

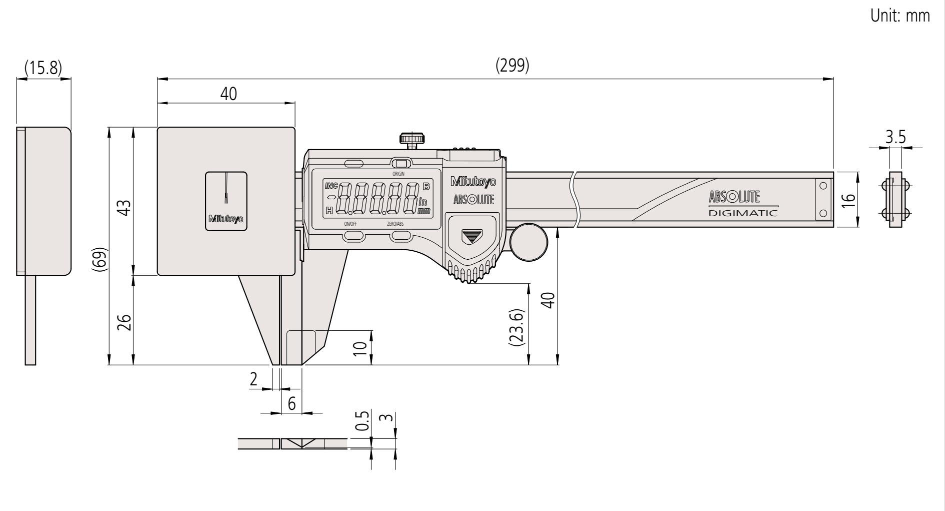
SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Accuracy*	Price
573-291-20	0 - 180 mm (0 - 7")	0.01 mm (.0005")	±0.05 mm (±.002")	**£706.00**

* Excluding quantizing error.

DIMENSIONS



Technical Data

Scale type:	ABSOLUTE electrostatic linear encoder
Jaw retraction:	0.3 mm
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3.5 years under normal use

Optional Accessories

959143:	Data hold unit **£17.00**
959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

19.17
Mitutoyo

Measurement procedure

A consistently low measuring force can be guaranteed by only taking measurements when the pointer is between the two fiducial lines.

SERIES 573 – ABSOLUTE Digimatic Snap Caliper

Technical Data

Repeatability:	0.01 mm
Scale type:	ABSOLUTE electrostatic linear encoder
Jaw retraction:	2 mm
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3.5 years under normal use

Optional Accessories

959143:	Data hold unit	**£17.00**
959149:	SPC data cable with pushbutton (1 m)	**£34.60**
959150:	SPC data cable with pushbutton (2 m)	**£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m)	**£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm)	**£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	**£114.00**

- Features a 'snap action' movement control of the slider via a spring-loaded mechanism attached to a movable clamp on the beam.
- Enables quick and efficient repetitive GO/NO-GO inspection of a specific dimension on mass produced parts by just moving a lever.
- Can measure outside and inside dimensions, depth, and steps.
- Measuring force: 7 to 14 N (700 to 1400 gf)
- The slider can be retracted by up to 2 mm from the measuring position.
- Features Mitutoyo's ABSOLUTE system. No need to reset the origin after switching on.
- Slider operation is smooth and comfortable.
- Data output function allows integration into statistical process control and measurement systems.

ABSOLUTE

573-282-20

SPECIFICATIONS

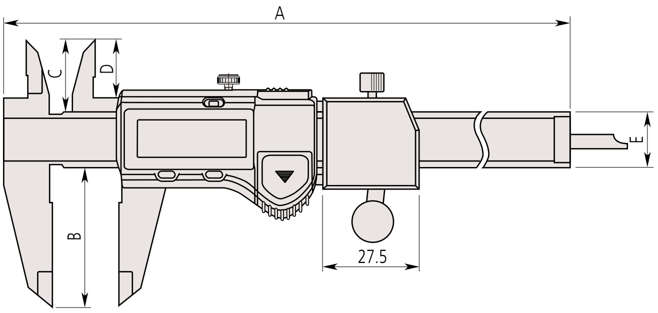
Inch/Metric

Code No.	Range	Resolution	Accuracy*	Price
573-281-20	0 - 100 mm (0 - 4")	0.01 mm (.0005")	±0.02 mm (±.001")	**£290.00**
573-282-20	0 - 150 mm (0 - 6")			**£324.00**

* Excluding quantizing error.

DIMENSIONS

Unit: mm



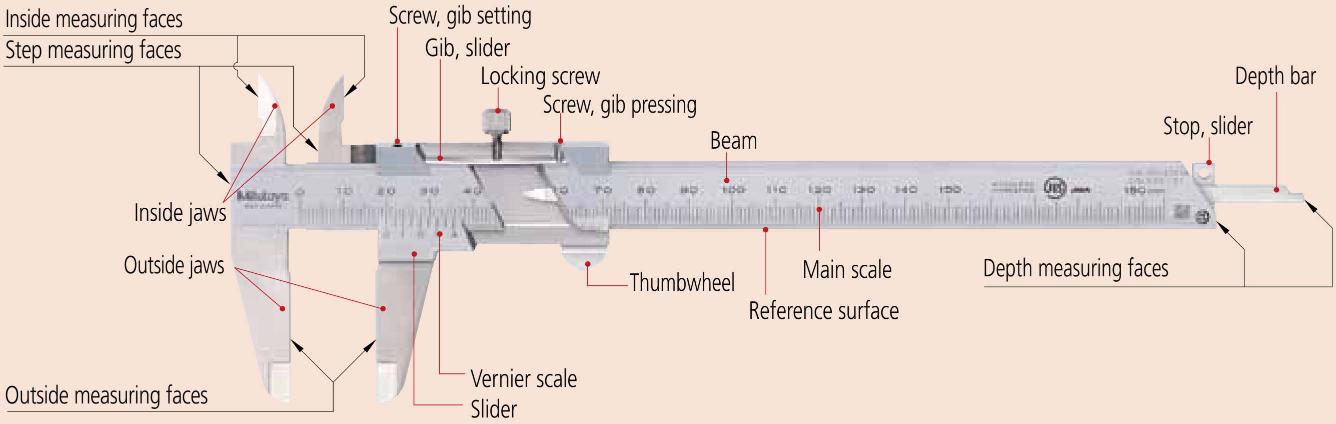
Range	A	B	C	D	E
0 - 100 mm	233	40	21	16.5	16
0 - 150 mm	290	50	24.5	20	

Quick Guide to Precision Measuring Instruments

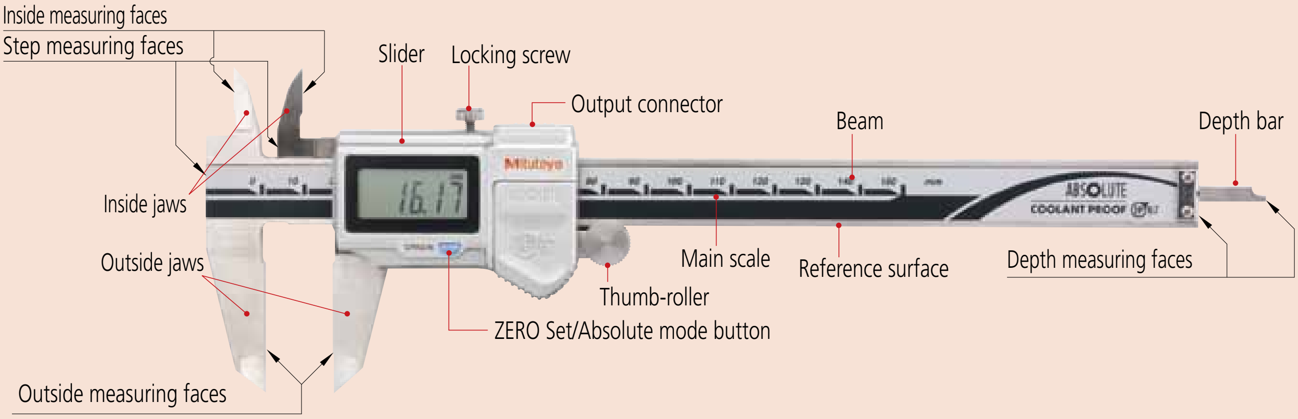
Calipers

Nomenclature

Vernier Caliper (M-type)

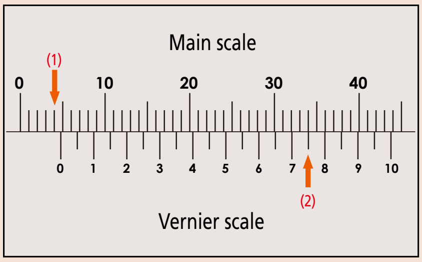

Inside measuring faces
Step measuring faces
Screw, gib setting
Gib, slider
Locking screw
Screw, gib pressing
Beam
Stop, slider
Depth bar
Inside jaws
Outside jaws
Thumbwheel
Main scale
Reference surface
Depth measuring faces
Vernier scale
Slider
Outside measuring faces

Absolute Digimatic Caliper (M-type)


Inside measuring faces
Step measuring faces
Slider
Locking screw
Output connector
Beam
Depth bar
Inside jaws
Outside jaws
Main scale
Reference surface
Depth measuring faces
Thumb-roller
ZERO Set/Absolute mode button
Outside measuring faces
16.17

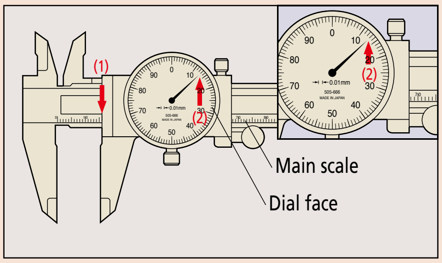
How to Read the Scale

Vernier Calipers


Main scale
(1)
0
10
20
30
40
0
1
2
3
4
5
6
7
8
9
10
(2)
Vernier scale

Graduation	0.05 mm	
(1) Main scale reading	4.00	mm
(2) Vernier scale reading	0.75	mm
Caliper reading	4.75	mm

Dial Calipers

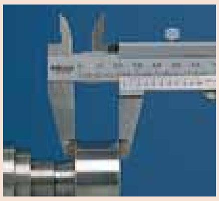

(1)
(2)
Main scale
Dial face

Graduation	0.01 mm	
(1) Main scale reading	16	mm
(2) Dial face reading	0.13	mm
Dial Caliper reading	16.13	mm

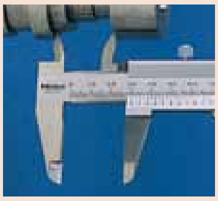
Note) Above left, 0.75 mm (2) is read at the position where a main scale graduation line corresponds with a vernier graduation line.

Measurement Examples

1. Outside measurement



2. Inside measurement

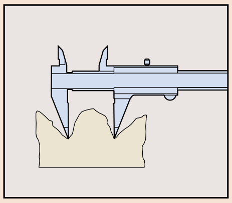


3. Step measurement

4. Depth measurement

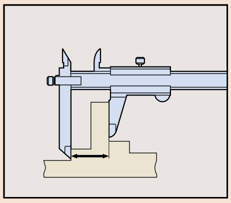
Special Purpose Caliper Applications

Point jaw type



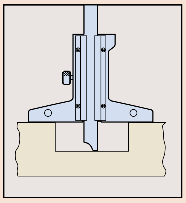
For uneven surface measurement

Offset jaw type



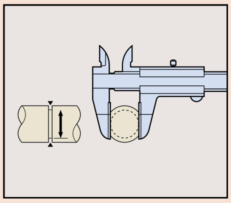
For stepped feature measurement

Depth type



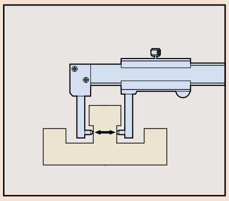
For depth measurement

Blade jaw type



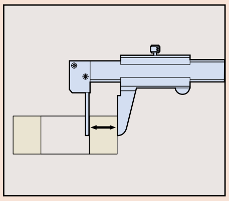
For diameter of narrow groove measurement

Neck type



For outside diameter measurement such as behind a shrouded recess

Tube thickness type

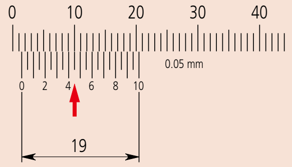


For tube or pipe thickness measurement

Types of Vernier Scale

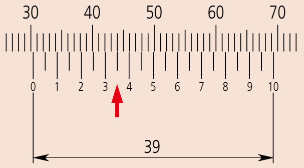
The Vernier scale is attached to the caliper's slider and each division on this scale is made 0.05 mm shorter than one main scale division of 1 mm. This means that, as the caliper jaws open, each successive movement of 0.05 mm brings the succeeding vernier scale line into coincidence with a main scale line and so indicates the number of 0.05 mm units to be counted (although for convenience the scale is numbered in fractions of a mm). Alternatively, one vernier division may be made 0.05 mm shorter than two divisions of the main scale to make a long vernier scale. This makes the scale easier to read but the principle, and discrimination, is still the same.

- Standard Vernier scale (graduation 0.05 mm)



Reading 1.45 mm

- Long Vernier scale (graduation 0.05 mm)

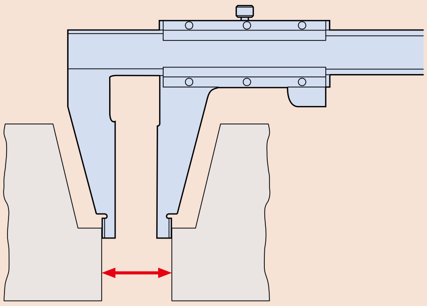


Reading 30.35 mm

About Long Calipers

Steel rules are commonly used to roughly measure large workpieces but if a little more accuracy is needed then a long caliper is suitable for the job. A long caliper is very convenient for its user friendliness but does require some care in use. In the first place it is important to realize there is no relationship between resolution and accuracy. For details, refer to the values in our catalogue. Resolution is constant whereas the accuracy obtainable varies dramatically according to how the caliper is used.

The measuring method with this instrument is a concern since distortion of the main beam causes a large amount of the measurement error, so accuracy will vary greatly depending on the method used for supporting the caliper at the time. Also, be careful not to use too much measuring force when using the tips of the measuring faces of a long-jaw caliper.



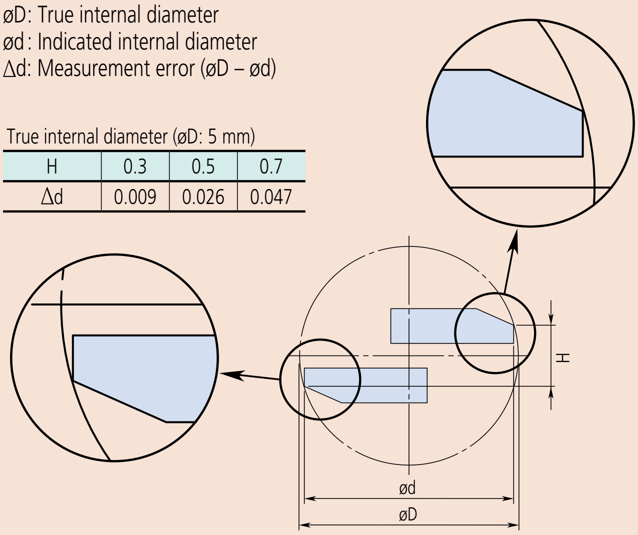
Small Hole Measurement with an M-Type Caliper

A small error occurs when you measure the internal diameter of a small hole with the inside jaws. This is because there is an offset (H) due to the thickness of the jaws and the clearance between them.

øD: True internal diameter
ød : Indicated internal diameter
Δd: Measurement error (øD – ød)

True internal diameter (øD: 5 mm)

H	0.3	0.5	0.7
Δd	0.009	0.026	0.047

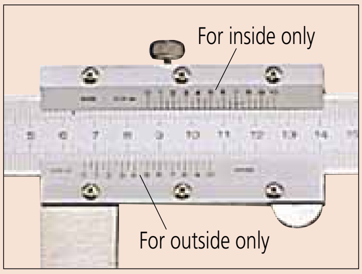


Inside Measurement with a CM-Type Caliper

Because the inside measuring faces of a CM-type caliper (see illustration at left) are at the tips of the jaws the measuring face parallelism is heavily affected by measuring force, and this becomes a large factor in the measurement accuracy attainable.

In contrast to an M-type caliper, a CM-type caliper cannot measure a very small hole diameter because it is limited to the size of the stepped jaws, although normally this is no inconvenience as it would be unusual to have to measure a very small hole with this type of caliper. Of course, the radius of curvature on the inside measuring faces is always small enough to allow correct hole diameter measurements right down to the lowest limit (jaw closure).

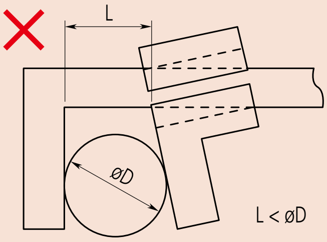
Mitutoyo CM-type calipers are provided with an extra scale on the slider for inside measurements so they can be read directly without the need for calculation, just as for an outside measurement. This useful feature eliminates the possibility of error that occurs when having to add the inside-jaw-thickness correction on a single-scale caliper.

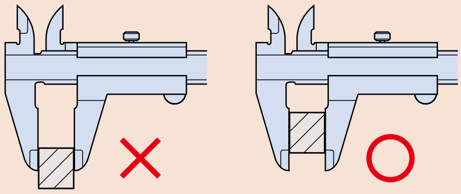


General Notes on use of Caliper

1. Potential causes of error

A variety of factors can cause errors when measuring with a caliper. Major factors include parallax effects, excessive measuring force due to the fact that a caliper does not conform to Abbe's Principle, differential thermal expansion due to a temperature difference between the caliper and workpiece, and the effect of the thickness of the knife-edge jaws and the clearance between these jaws during measurement of the diameter of a small hole. Although there are also other error factors such as graduation accuracy, reference edge straightness, main scale flatness on the main blade, and squareness of the jaws, these factors are included within the instrumental error tolerances. Therefore, these factors do not cause problems as long as the caliper satisfies the instrumental error tolerances.





2. Inside measurement

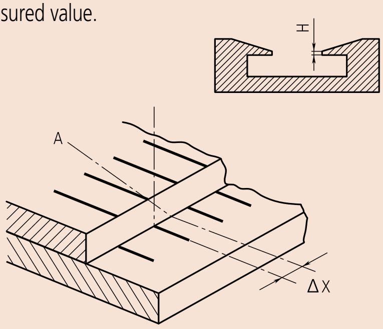
Insert the inside jaw as deeply as possible before measurement.
Read the maximum indicated value during inside measurement.
Read the minimum indicated value during groove width measurement.

3. Depth measurement

Read the minimum indicated value during depth measurement.

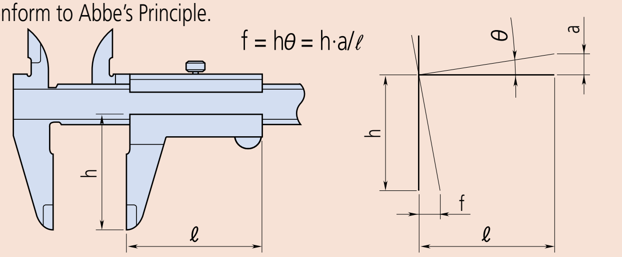
4. Parallax error when reading the scales

Look straight at the vernier graduation line when checking the alignment of vernier graduation lines to the main scale graduation lines.
If you look at a vernier graduation line from an oblique direction (A), the apparent alignment position is distorted by ΔX as shown in the figure below due to a parallax effect caused by the step height (H) between the planes of the vernier graduations and the main scale graduations, resulting in a reading error of the measured value.



5. Moving jaw tilt error

If the moving jaw becomes tilted out of parallel with the fixed jaw, either through excessive force being used on the slider or lack of straightness in the reference edge of the beam, a measurement error will occur as shown in the figure. This error may be substantial due to the fact that a caliper does not conform to Abbe's Principle.



Example: Assume that the error slope of the jaws due to tilt of the slider is 0.01 mm in 50 mm and the outside measuring jaws are 40 mm deep, then the error (at the jaw tip) is calculated as (40/50) x 0.01 mm = 0.008 mm.
If the guide face is worn then an error may be present even using the correct measuring force.

6. Relationship between measurement and temperature

The main scale of a caliper is engraved (or mounted on) stainless steel, and although the linear thermal expansion coefficient is equal to that of the most common workpiece material, steel, i.e. $(10.2 \pm 1) \times 10^{-6}$ / K, note that other workpiece materials, the room temperature and the workpiece temperature may affect measurement accuracy.

7. Handling

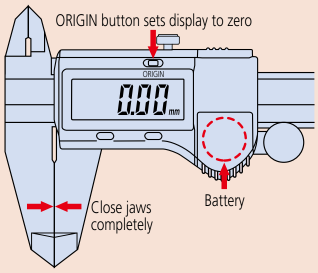
Caliper jaws are sharp, and therefore the instrument must be handled with care to avoid personal injury.
Avoid damaging the scale of a digital caliper and do not engrave an identification number or other information on it with an electric marker pen.
Avoid damaging a caliper by subjecting it to impact with hard objects or by dropping it on a bench or the floor.

8. Maintenance of beam sliding surfaces and measuring faces

Wipe away dust and dirt from the sliding surfaces and measuring faces with a dry soft cloth before using the caliper.

9. Checking and setting the origin before use

Clean the measuring surfaces by gripping a sheet of clean paper between the outside jaws and then slowly pulling it out. Close the jaws and ensure that the vernier scale (or display) reads zero before using the caliper. When using a Digimatic caliper, reset the origin (ORIGIN button) after replacing the battery.



10. Handling after use

After using the caliper, completely wipe off any water and oil. Then, lightly apply anti-corrosion oil and let it dry before storage.
Wipe off water from a waterproof caliper as well because it may corrode the working surfaces.

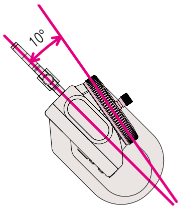
11. Notes on storage

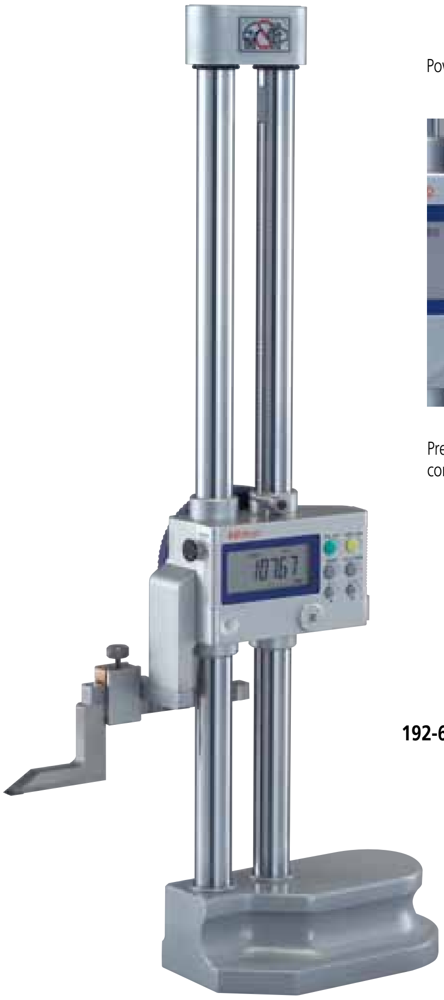
Avoid direct sunlight, high temperatures, low temperatures, and high humidity during storage.
If a digital caliper will not be used for more than three months, remove the battery before storage.
Do not leave the jaws of a caliper completely closed during storage.

Height Gauges

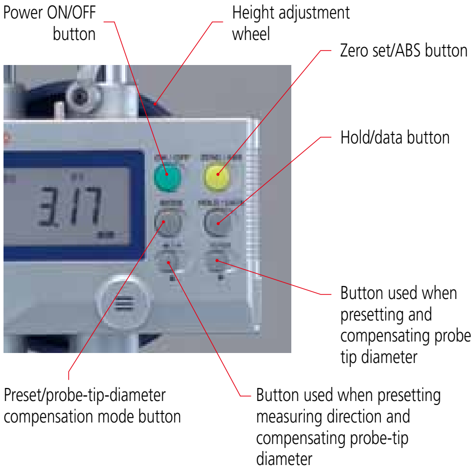
SERIES 192 – Digimatic Multifunction Height Gauge

- Double-column structure ensures high measuring accuracy.
- Ergonomic base fits comfortably in the hand.
- Bidirectional touch-trigger probe is available as an optional accessory.
- Character height of the display has been increased (10 to 11 mm) and the high-contrast LCD display provides improved readability.
- Inclined handle improves slider ergonomics.
- Allows integration into statistical process control and measurement systems.
- Battery: SR44 (1 pc.), **938882**.
- Battery life is 3,500 hours in continuous use.
- Carbide-tipped long scriber (**905200** with overall length of 150 mm) is provided as a standard accessory. (Standard accessory: scriber cramp **05GZA033**.)





192-670-10


Power ON/OFF button
Height adjustment wheel
Zero set/ABS button
Hold/data button
Button used when presetting and compensating probe tip diameter
Preset/probe-tip-diameter compensation mode button
Button used when presetting measuring direction and compensating probe-tip diameter

SPECIFICATIONS

Inch/Metric

Order No.	Range	Accuracy*	Resolution (switchable)	Height	Mass	Price
192-670-10	0 - 300 mm (0 - 12")	±0.02 mm (±.001")	0.01 / 0.005 mm (.0005 / .0002")	510 mm	5.7 kg	**£941.00**
192-671-10	0 - 450 mm (0 - 18")	±0.04 mm (±.0015")		649 mm	7.5 kg	**£1090.00**
192-672-10	0 - 600 mm (0 - 24")			802 mm	8.3 kg	**£1270.00**
192-673-10	0 - 1000 mm (0 - 40")	±0.06 mm (±.0025")		1228 mm	15.7 kg	**£2210.00**

* Excluding quantizing error.

Technical Data

Repeatability:	0.01 mm
Max. response speed:	500 mm/s
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3500 hours in continuous use

Functions

Origin-setting (ABS measurement mode):
Any arbitrary value can be stored as the origin point.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider.

Origin restoration:
Previously set origin is restored when switching back to ABS mode.

Presetting (ABS INC measurement mode):
Displayed value can be set to any arbitrary value, including negative values.

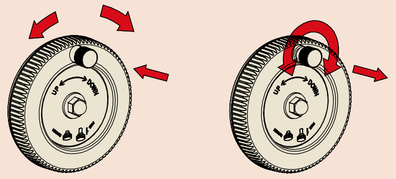
Measuring direction:
Measuring direction can be switched at the press of a button.

Data hold:
Display value can be held. Reverts to ABS or INC mode when cancelled.

Alarm:
Error message is displayed when overflow or overspeed of displayed value arises and measurement is stopped.

Data output:
Allows integration into statistical process control and measurement systems.

Fine and coarse height adjustment:
Through knob and wheel combination. Slider height adjustment wheel allows fine and coarse height adjustment.


UP
DOWN
UP
DOWN

Coarse adjustment
Push the small fine-adjustment knob in to disengage gearing and then turn the large wheel.

Fine adjustment
Pull the fine-adjustment knob out to engage gearing and then turn this knob, which then slowly turns the wheel.

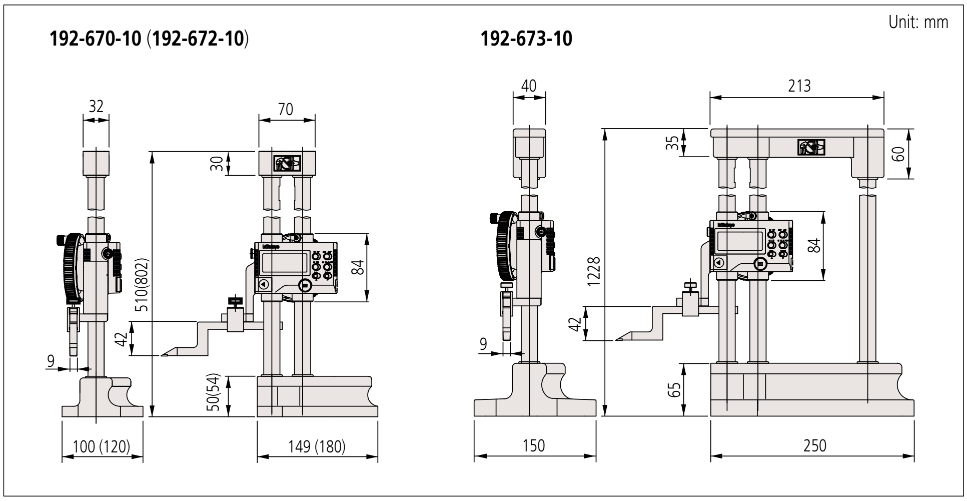
Low-voltage alert:
When battery voltage becomes low, a warning appears in the display.

Probe-tip diameter compensation:
An adjustment is applied to the raw measurement data to compensate for the effect of the size of the spherical contact point used by the bidirectional touch-trigger probe.

Optional Accessories

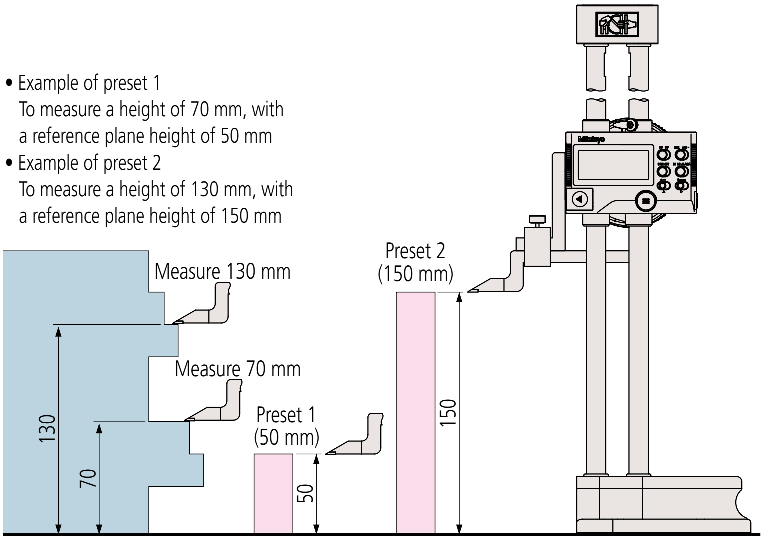
905338:	SPC data cable (1 m) **£32.90**
905409:	SPC data cable (2 m) **£36.80**
06ADV380F:	USB Input Tool Direct USB-ITN-F (2 m) **£90.80**
02AZD790F:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140F:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£107.00**

DIMENSIONS


Unit: mm
192-670-10 (192-672-10)
192-673-10
32
70
30
84
510(802)
42
9
50(54)
100 (120)
149 (180)
40
213
35
60
84
1228
42
9
65
150
250

Presetting (2 positions)

With two preset functions, two reference heights created by gauge blocks can be used to make repetitive measurements with high accuracy relative to a datum plane (surface plate).



- Example of preset 1
  To measure a height of 70 mm, with
  a reference plane height of 50 mm
- Example of preset 2
  To measure a height of 130 mm, with
  a reference plane height of 150 mm

Measure 130 mm
Measure 70 mm
Preset 1
(50 mm)
Preset 2
(150 mm)
130
70
50
150

Bidirectional touch-trigger probe (optional accessory)

Improves accuracy in step, internal thickness, and outside width measurement by minimizing reproducibility error.

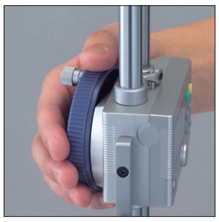
SPECIFICATIONS

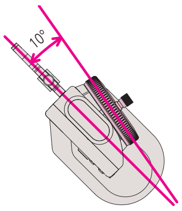
Code No.	Measuring direction	Relay contact type	Probe overtravel	Probe size	Repeatability	Measuring force	Standard accessories	Price
192-008	Bidirectional	Normally open	1.5 mm	ø3 mm	σ: 2 μm	0.4N	Holder arm, clamp	**£378.00**

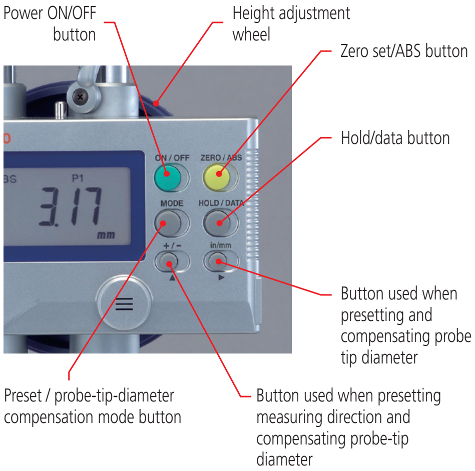
Height Gauges

SERIES 192 – Digimatic Double Column Height Gauge

- Easy-to-use standard type.
- Ergonomic base fits comfortably in the hand.
- Character height of the display has been increased (10 to 11 mm) and the high-contrast LCD display provides improved readability.
- Inclined handle improves slider ergonomics.
- Double-column structure ensures high measuring accuracy.
- Carbide-tipped long scriber (**900258**) is provided as a standard accessory. (Standard accessory: scriber cramp **05GZA033**.)






Power ON/OFF button
Height adjustment wheel
Zero set/ABS button
Hold/data button
Button used when presetting and compensating probe tip diameter
Preset / probe-tip-diameter compensation mode button
Button used when presetting measuring direction and compensating probe-tip diameter

192-630-10

SPECIFICATIONS

Inch/Metric

Code No.	Range	Accuracy*	Resolution (switchable)	Height	Mass	**Price**
192-630-10	0 - 300 mm (0 - 12")	±0.02 mm (±.001")	0.01 / 0.005 mm (.0005 / .0002")	475 mm	4.7 kg	**£704.00**
192-631-10	0 - 450 mm (0 - 18")	±0.05 mm (±.002")		649 mm	7.5 kg	**£982.00**
192-632-10	0 - 600 mm (0 - 24")			802 mm	8.3 kg	**£1020.00**
192-633-10	0 - 1000 mm (0 - 40")	±0.07 mm (±.003")		1228 mm	15.7 kg	**£2070.00**

* Excluding quantizing error of ±1 count.

Technical Data

Repeatability:	0.01 mm
Max. response speed:	500 mm/s
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3500 hours in continuous use

Functions

Origin-setting (ABS measurement mode):
Any arbitrary value can be stored as the origin point.

Zero-setting (INC measurement mode):
Displayed value can be set to zero at any arbitrary position of the slider.

Origin restoration:
Previously set origin is restored when switching back to ABS mode.

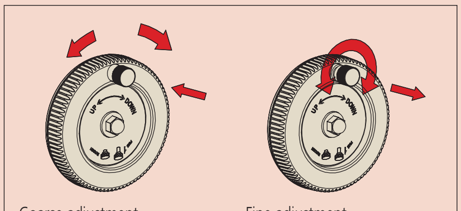
Presetting (ABS INC measurement mode):
Displayed value can be set to any arbitrary value, including negative values.

Measuring direction:
Measuring direction can be switched at the press of a button.

Data hold:
Display value can be held. Reverts to ABS or INC mode when cancelled.

Alarm:
Error message is displayed when overflow or overspeed of displayed value arises and measurement is stopped.

Fine and coarse height adjustment:
Through knob and wheel combination. Slider height adjustment wheel allows fine and coarse height adjustment.



Coarse adjustment
Push the small fine-adjustment knob in to disengage gearing and then turn the large wheel.

Fine adjustment
Pull the fine-adjustment knob out to engage gearing and then turn this knob, which then slowly turns the wheel.

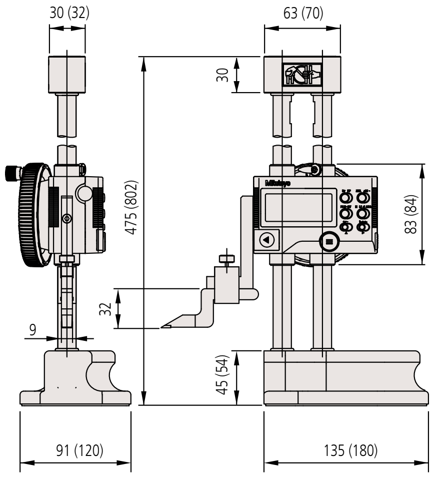
Low-voltage alert:
When battery voltage becomes low, a warning appears in the display.

Probe-tip diameter compensation:
An adjustment is applied to the raw measurement data to compensate for the effect of the size of the spherical contact point used by the bidirectional touch-trigger probe.

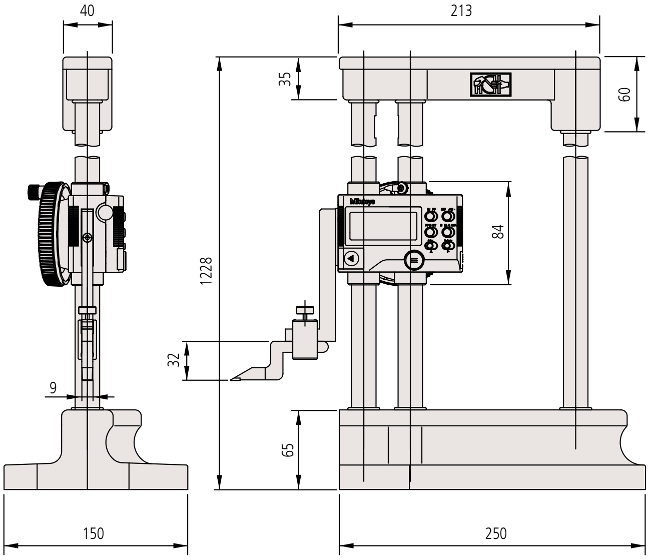
DIMENSIONS

Unit: mm

192-630-10 (**192-632-10**)


30 (32)
63 (70)
30
475 (802)
83 (84)
32
9
45 (54)
91 (120)
135 (180)

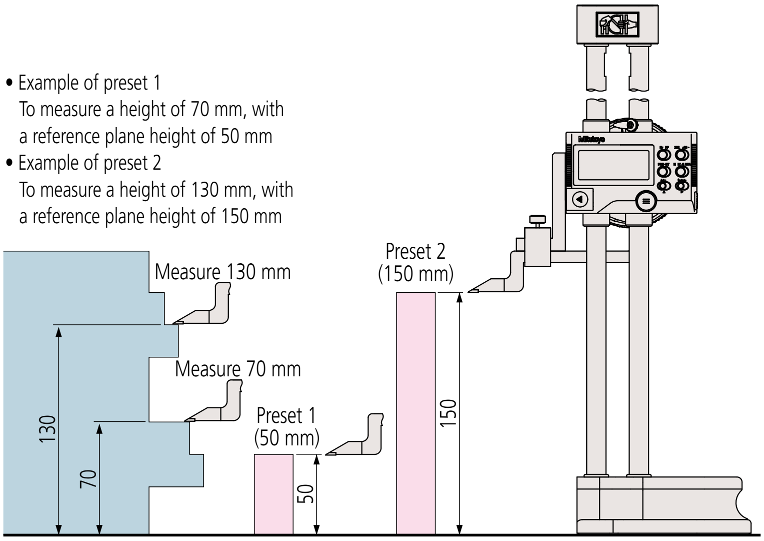
192-633-10


40
213
35
60
84
1228
32
9
65
150
250

Presetting (2 positions)

With two preset functions, two reference heights created by gauge blocks can be used to make repetitive measurements with high accuracy relative to a datum plane (surface plate).

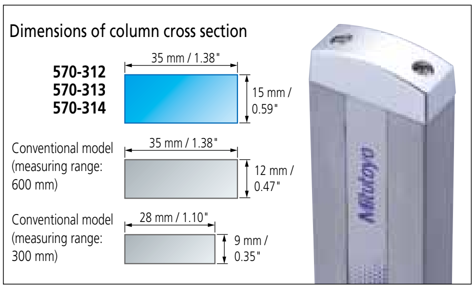
- Example of preset 1
  To measure a height of 70 mm, with
  a reference plane height of 50 mm
- Example of preset 2
  To measure a height of 130 mm, with
  a reference plane height of 150 mm


Measure 130 mm
Preset 2
(150 mm)
Measure 70 mm
Preset 1
(50 mm)
130
70
50
150

Height Gauges

SERIES 570 – ABSOLUTE Digimatic Ergonomic Height Gauge

- Allows smooth elevation by the slider adjustment wheel, which is the same type used on the well-established double-column height gauge.
- Large slider-clamp lever ensures positive and accurate clamping action.
- High durability and high accuracy are ensured by an improved column design (35 x 15 mm).
- Character height of the LCD display is 10 mm.
- Due to the built-in ABSOLUTE scale function, origin setting is not required each time power is turned ON.
- Ergonomic and stylish base fits comfortably in the hand.
- Allows integration into statistical process control and measurement systems.


Dimensions of column cross section

ABSOLUTE

Slider height adjustment wheel

Large clamp lever

SPECIFICATIONS

Inch/Metric

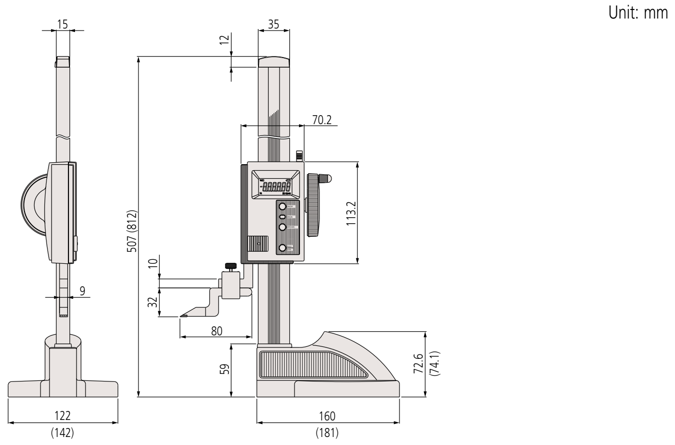
Code No.	Range	Accuracy*	Resolution	Height	Mass	Price
570-312	0 - 300 mm (0 - 12")	±0.03 mm (±.0015")	0.01 mm (.0005")	507 mm	4.6 kg	**£419.00**
570-313	0 - 450 mm (0 - 18")	±0.05 mm (±.002")		662 mm	5.9 kg	**£581.00**
570-314	0 - 600 mm (0 - 24")			812 mm	6.4 kg	**£704.00**

* Excluding quantizing error.

DIMENSIONS

570-312 (**570-314**)

Unit: mm



Technical Data

Repeatability:	0.01 mm
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	20,000 hours under normal use

Functions

Origin-setting:
Any convenient reference surface, such as a surface plate, etc., can be stored as the absolute origin point.

Absolute measurement:
After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. Absolute origin position can be changed by ORIGIN button.

Incremental measurement:
Allows origin setting at any arbitrary position. In this case, the origin point is not stored after turning off the power.

Data hold:
Display value can be held.

Data output:
Allows integration into statistical process control and measurement systems.

Low-voltage alert:
If the battery voltage becomes low, a "B" appears in the display to alert the user before measurement is no longer possible so that the battery can be changed in good time.

Standard Accessories

Clamp (with dovetail groove)
900322

Holding bar C*
953639

Scriber clamp
901385

Scriber
900258

*For mounting a test indicator

Optional Accessories

905338:	SPC data cable (1 m) **£32.90**
905409:	SPC data cable (2 m) **£36.80**
06ADV380F:	USB Input Tool Direct USB-ITN-F (2 m) **£90.80**
02AZD790F:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140F:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£107.00**

Technical Data

Repeatability:	0.01 mm
Fine feed:	6 mm (.24")
Battery:	SR44 (1 pc.), **938882**
Battery life:	20,000 hours under normal use

Functions

Zero-setting
+/- directional measurement
Data hold
Data output
Presetting
inch/mm reading (inch/mm models)
Preset value memory
Origin restoration
Low battery voltage alert
Counting value composition error alert

Optional Accessories

905338:	SPC data cable (1 m) **£32.90**
905409:	SPC data cable (2 m) **£36.80**
06ADV380F:	USB Input Tool Direct USB-ITN-F (2 m) **£90.80**
02AZD790F:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140F:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£107.00**

SERIES 570 – ABSOLUTE Digimatic Height Gauge

- ABS and INC measurement modes allow efficient operation.
- Rigid structure makes instrument suitable for use in severe work environments.
- The +/- measurement function widens the application range.
- Allows integration into statistical process control and measurement systems.
- Carbide-tipped scriber (**05GZA033**) is provided as a standard accessory.

ABSOLUTE

570-248

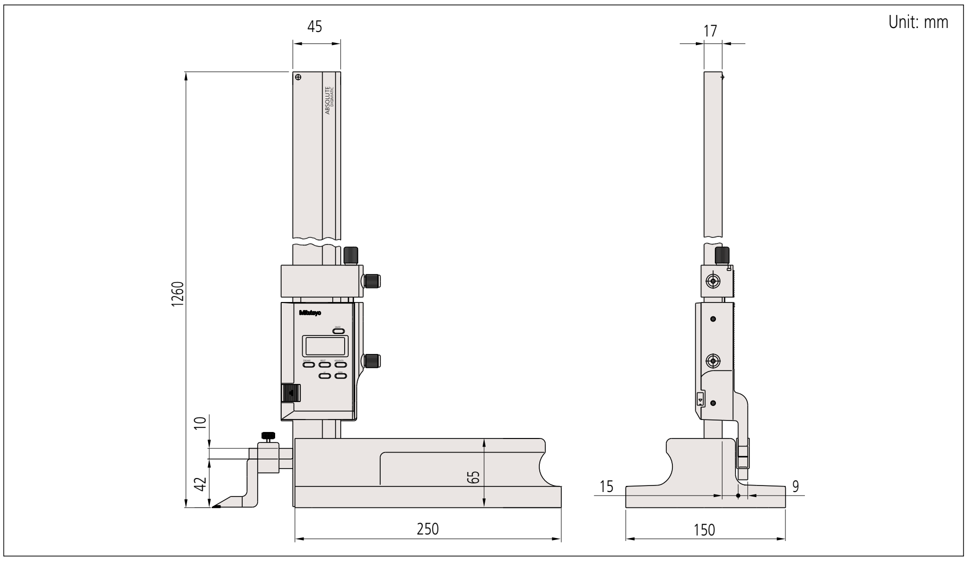
SPECIFICATIONS

Inch/Metric

Code No.	Range	Accuracy*	Resolution	Height	Mass	**Price**
570-248	0 - 1000 mm (0 - 40")	±0.07 mm (±.003")	0.01 mm (.0005")	1260 mm	16.8 kg	**£1870.00**

* Excluding quantizing error.

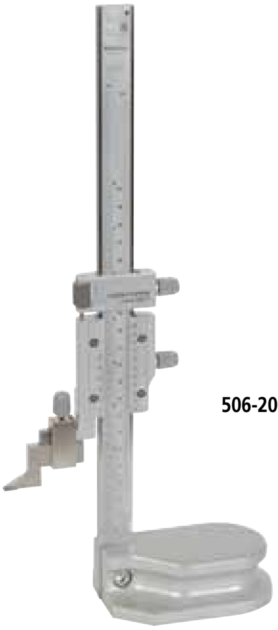
DIMENSIONS



Height Gauges

SERIES 506, 514 – Vernier Adjustable Scale Height Gauge

- Fits comfortably in the hand and moves easily on the surface plate.
- The main scale slides and clamps within the column for quick and convenient zero-setting.
- Large locking screws are used both for the slider and fine adjustment clamps to make clamping easy and secure.
- Operability of slider has been improved.
- Large mainscale engraving for fatigue-free working.
- Carbide-tipped scriber (**07GZA000** for 514-103/5/7, **905200** for 514-109) is provided as a standard accessory. (Scriber cramp **05GZA033** for 514-103/5/7/9.)



506-208

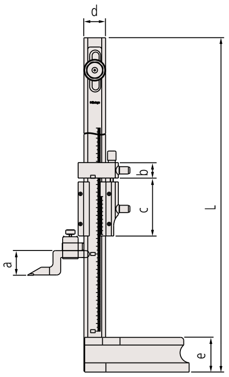
514-103

SPECIFICATIONS

Inch/Metric

Code No.	Range	Accuracy*	Scale adjustment	Fine feed	Height	Mass	**Price**
506-208	0-200 mm (0-8")	±0.03 mm (±.001")	—	4 mm (.16")	341 mm	1.4 kg	**£245.00**
514-103	0-300 mm (0-12")	±0.04 mm (±.002")	15 mm (.6")		525 mm	3.1 kg	**£308.00**
514-105	0-450 mm (0-18")	±0.05 mm (±.002")			675 mm	3.4 kg	**£591.00**
514-107	0-600 mm (0-24")			7 mm (.27")	870 mm	7.4 kg	**£742.00**
514-109	0-1000 mm (0-40")	±0.07 mm (±.004")	25 mm (1")	6 mm (.24")	1340 mm	20 kg	**£1720.00**

DIMENSIONS

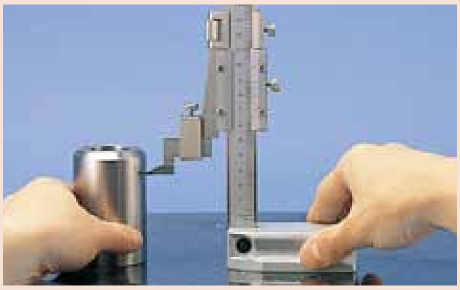


Unit: mm

Range	L	a	b	c	d	e
0-200 mm	341	25	20	57	20	35
0-300 mm	525	32		70	28	45
0-450 mm	675					
0-600 mm	870		24	85	35	54
0-1000 mm	1340	42	30	110	45	65

Technical Data

Graduation: 0.02 mm (.001")



Base fits the hand comfortably

Fine-adjustment knob

Locking screws

Large main-scale engraving

Optional Accessories

07GZA700:	Scriber **£34.90**
953638:	Holding bar for test indicator (length: 50 mm) **£9.40**
900209:	Holding bar for test indicator (length: 100 mm) **£8.30**
953639:	Holding bar for test indicator (length: 2") **£9.60**
900306:	Holding bar for test indicator (length: 4") **£8.30**
900321:	Swivel clamp used with holding bar (metric) **£12.80**
900322:	Swivel clamp used with holding bar (inch) **£12.80**
902053:	Clamp (with dovetail groove, ø6 and ø8 holes) **£12.80**

Note: A test indicator can be mounted on a height gauge using a holding bar and clamp.

Base fits the hand comfortably

SERIES 192 – Mechanical Counter Height Gauge

- Easy and error-free reading with both up and down digital counters as well as a dial.
- Can be zero-set at any arbitrary position.
- Provided with a large adjustment wheel for easy height adjustment.
- Clamp can be operated easily and securely.
- Fits comfortably in the hand and moves easily on the surface plate.
- Carbide tipped scriber (**07GZA000**) and scriber clamp (**05GZA033**) are attached as standard.

192-130

SPECIFICATIONS

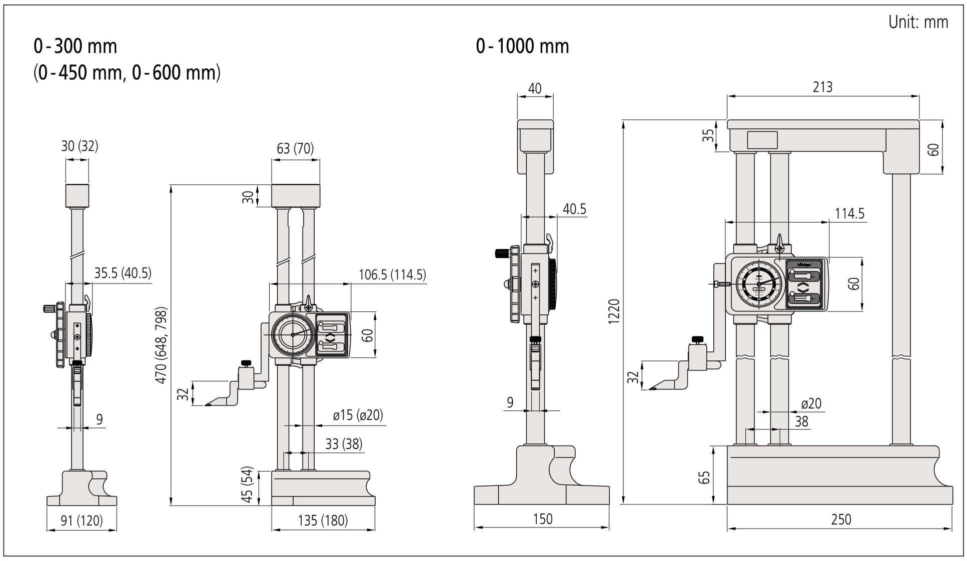
Metric

Code No.	Range	Accuracy	Graduation	Height	Mass	Price
192-130	0 - 300 mm	±0.03 mm	0.01 mm	470 mm	4.2 kg	**£641.00**
192-131	0 - 450 mm	±0.05 mm		648 mm	9.2 kg	**£753.00**
192-132	0 - 600 mm			798 mm	9.8 kg	**£959.00**
192-133	0 - 1000 mm	±0.07 mm		1220 mm	17.0 kg	**£1420.00**

Inch

Code No.	Range	Accuracy	Graduation	Height	Mass	Price
192-150	0 - 12"	±.0015"	.001"	470 mm	4.2 kg	**£641.00**
192-151	0 - 18"	±.002"		648 mm	9.2 kg	**£753.00**
192-152	0 - 24"			798 mm	9.8 kg	**£959.00**
192-153	0 - 40"	±.003"		1220 mm	17.0 kg	**£1420.00**

DIMENSIONS


Unit: mm
0 - 300 mm
(0 - 450 mm, 0 - 600 mm)
30 (32)
63 (70)
30
35.5 (40.5)
106.5 (114.5)
470 (648, 798)
60
32
ø15 (ø20)
9
33 (38)
45 (54)
91 (120)
135 (180)
0 - 1000 mm
40
213
35
60
40.5
114.5
1220
60
32
9
ø20
38
65
150
250

Optional Accessories

SERIES 515 – CERA Caliper Checker

- Enables efficient setting and inspection of calipers and height gauges.

515-555

SPECIFICATIONS

Metric

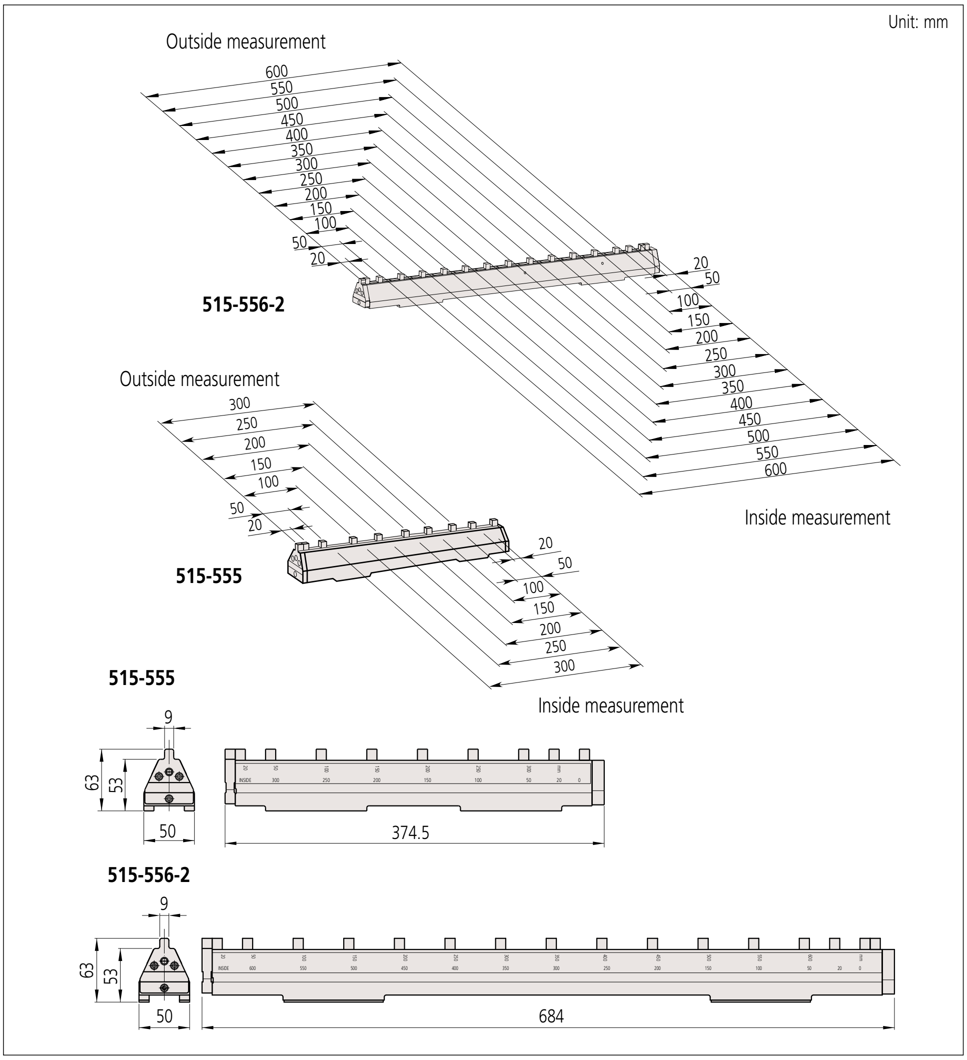
Code No.	Range	Block pitch accuracy*		Parallelism of blocks*		Mass	Price
		20 - 300 mm	350 - 600 mm	20 - 300 mm	350 - 600 mm		
515-555	0 - 300 mm	±5.0 μm	—	2.0 μm	—	4 kg	**£2010.00**
515-556-2	0 - 600 mm		±7.0 μm		4.0 μm	8.5 kg	**£3180.00**

Inch

Code No.	Range	Block pitch accuracy* 1 - 12"	Parallelism of blocks* 1 - 12"	Mass	Price
515-565	0 - 12"	±.0002"	.00008"	4 kg	**£2010.00**

* The block accuracy and parallelism are based on the following:
Outside caliper and height gauge: lower end reference plane
Inside caliper: inside reference plane

DIMENSIONS


Unit: mm
Outside measurement
600
550
500
450
400
350
300
250
200
150
100
50
20
515-556-2
20
50
100
150
200
250
300
350
400
450
500
550
600
Inside measurement
Outside measurement
300
250
200
150
100
50
20
515-555
20
50
100
150
200
250
300
Inside measurement
515-555
9
63
53
50
374.5
515-556-2
9
63
53
50
684

Optional Accessories

602162:	Wooden case for 300 mm / 12" model **£204.00**
602164:	Wooden case for 600 mm model **£222.00**

Checking the accuracy of a caliper

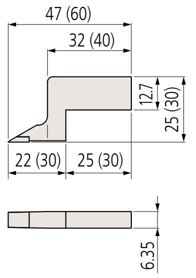
Setting a height gauge

For Height Gauges

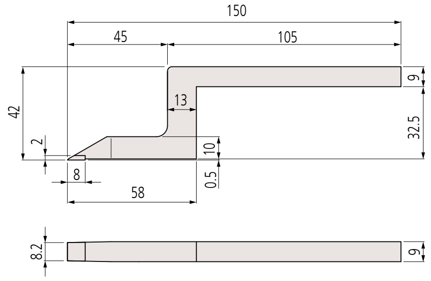
Scriber Dimensions

Unit: mm

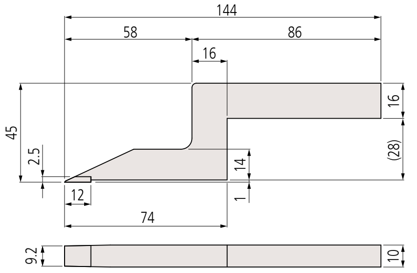
900173 (900258)



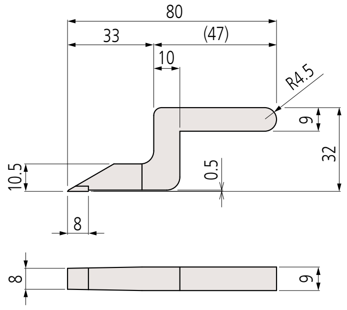
905200



900390



07GZA000



Scriber

07GZA000

Metric

Code No.	Applicable Height Gauges	Price
07GZA000	192 Series Dial Height Gauges (192-130, 192-131, 192-132, 192-133)	**£34.90**
	514 Series Vernier Height Gauges (514-103, 514-105, 514-107)	**£34.90**
905200	514 Series Vernier Height Gauges (514-109)	**£81.20**

Inch

Code No.	Applicable Height Gauges	Price
900173	570 Series Digimatic Height Gauges (570-227, 570-244)	**£37.50**
	506 Series Vernier Height Gauges (506-208)	**£37.50**
900258	192 Series Digimatic Height Gauges (192-630-10, 192-631-10, 192-632-10, 192-633-10)	**£37.50**
	570 Series Digimatic Height Gauges (570-312, 570-313, 570-314)	**£37.50**
	192 Series Dial Height Gauges (192-150, 192-151, 192-152, 192-153)	**£37.50**
	574 Series Heightmatic (574-212-1, 574-211-1, 574-210-1)	**£37.50**
905201	192 Series Digimatic Height Gauges (192-670-10, 192-671-10, 192-672-10, 192-673-10)	**£78.60**
	570 Series Digimatic Height Gauges (570-248)	**£78.60**

Contact Sensor

The contact sensor eliminates errors caused by non-contact of the scriber with a workpiece while making measurements. When the scriber of a height gauge touches a conductive workpiece, an indicator lights up to indicate that a measurement can be taken, which results in consistent results.

- Magnet is incorporated.
- Battery (PR44, 2 pcs required) is not included.

900872: Contact sensor **£58.00**

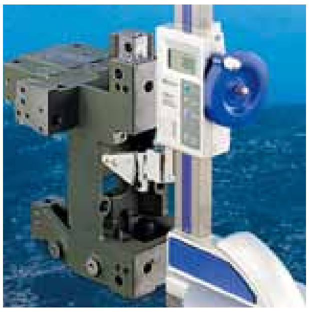
Centre Probe

Allows quick measurement of Centre-to-Centre distance between holes.

- Measurable hole diameters: 1 - 38 mm / .04 - 1.5"
- Mounting position dimension: 99 mm

951144: Metric centre probe **£71.10**

900581: Inch centre probe **£85.00**



Depth Gauge Attachment

Attaches to a height gauge for measuring groove and hole depth.

- Minimum hole diameter: 5.5 mm / .22"
- Maximum distance from the bottom of the holding bar to the contact point: 80 mm (metric type), 2.95" (inch type)
- Dial indicator contact points are usable.
- Mounting position dimension: 99 mm
- Holding bar length: 100 mm

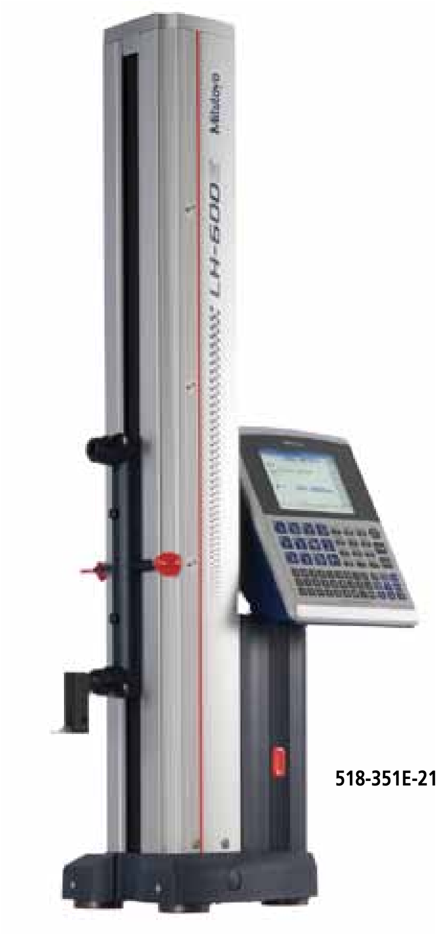
900764: Metric depth gauge attachment **£22.50**

900878: Inch depth gauge attachment **£22.50**

Height Gauges

SERIES 518 – Linear Height Digimatic 2D Measurement System

- Excellent accuracy of (1.1+0.6L/600) µm with 0.1 µm / 0.4 µm resolution/repeatability.
- High-accuracy Height Gauge incorporating a wide range of measurement functions.
- To achieve best-in-class accuracy, a high-accuracy reflective-type linear encoder and an exceptionally straight guide are used.
- Measurement can be implemented by icon-based commands that also support easy one-key operation. Perpendicularity (frontal) of 5 µm and straightness of 4 µm are guaranteed.
- A best-in-class large colour LCD with excellent visibility is used.
- Pneumatic full/semi-floating suspension system allows adjustment of air-cushion height.
- Basic statistical functions are provided and, additionally, RS-232C data output provides the option of evaluating measurement data externally with SPC software on a PC.



518-351E-21

Running the pneumatic suspension allows frictionless movement on a surface plate.

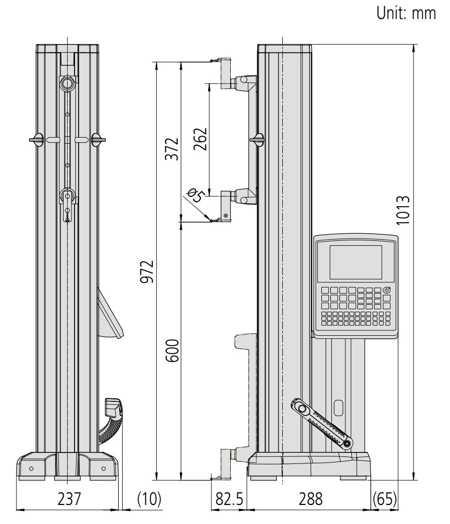
Power grip provides precise handling.

SPECIFICATIONS

Inch/Metric

Code No.	Remarks	Price
518-351E-21	—	**£4290.00**
518-352E-21	Power grip pre-installed	**£4520.00**

DIMENSIONS



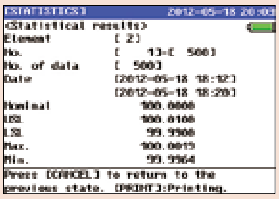
Technical Data

Measuring range:	0 - 972 mm
Slider stroke:	600 mm
Resolution (switchable):	0.0001 / 0.001 / 0.01 / 0.1 mm or .000001 / .00001 / .0001 / .001"
Accuracy at 20°C*[1]:	(1.1+0.6L/600) µm, L = measuring length in mm
Repeatability (2σ)*[1]	
Plane:	0.4 µm
Bore:	0.9 µm
Perpendicularity*[2]:	5 µm (after compensation)
Straightness*[2]:	4 µm (mechanical straightness)
Drive method:	Manual / motor (5 - 40 mm/s, 7 steps)
Measuring force:	1N
Balancing method:	Counter balance
Suspension method:	Full / semi-floating with built-in air compressor
Display:	Colour TFT LCD (320 x 240 dot, with LED backlight)
Language for display:	Japanese, English, German, French, Italian, Spanish, Dutch, Portuguese, Swedish, Czech, Hungarian, Slovene, Polish, Traditional Chinese, Korean, and Simplified Chinese
No. of stored programs:	50 (max.)
No. of stored data:	60,000 (max.)
Power supply:	AC adapter / battery (Ni-MH)
Battery operation time:	Approx. 5 hours (air suspension and slider elevation: 25% duty cycle)

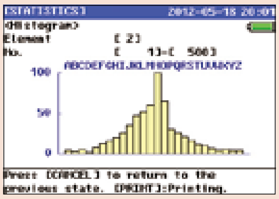
*[1] Guaranteed when using the standard eccentric ø5 probe

*[2] Guaranteed when using the Lever Head (MLH-321) or Mu-checker (M-411)

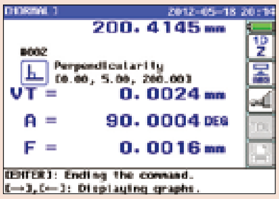
Screenshot Examples



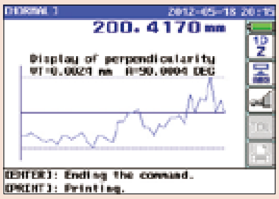
```
[STATISTICS]                2012-05-18 20:03
<Statistical results>
Element              [ 2]
No.                  [     1]-[   500]
No. of data          [   500]
Date                 [2012-05-18 18:12]
                     [2012-05-18 18:20]
Nominal                  100.0000
USL                      100.0100
LSL                       99.9900
Max.                     100.0019
Min.                      99.9964
Press [CANCEL] to return to the
previous state. [PRINT]:Printing.
```



```
[STATISTICS]                2012-05-18 20:07
<Histogram>
Element              [ 2]
No.                  [     1]-[   500]
Press [CANCEL] to return to the
previous state. [PRINT]:Printing.
```



```
[NORMAL]                    2012-05-18 20:14
                  200.4145 mm
 0002
     Perpendicularity
     [0.00, 5.00, 200.00]
VT =              0.0024 mm
 A =             90.0004 DEG
 F =              0.0016 mm
[ENTER]: Ending the command.
[→],[←]: Displaying graphs.
```

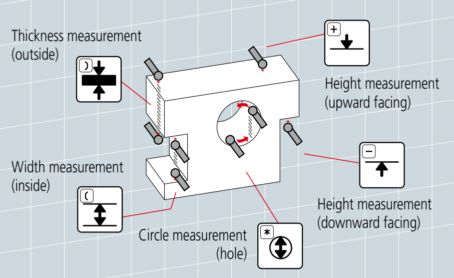


```
[NORMAL]                    2012-05-18 20:15
                  200.4170 mm
   Display of perpendicularity
   VT=0.0029 mm  A=90.0004 DEG
[ENTER]: Ending the command.
[PRINT]: Printing.
```

Standard Accessories

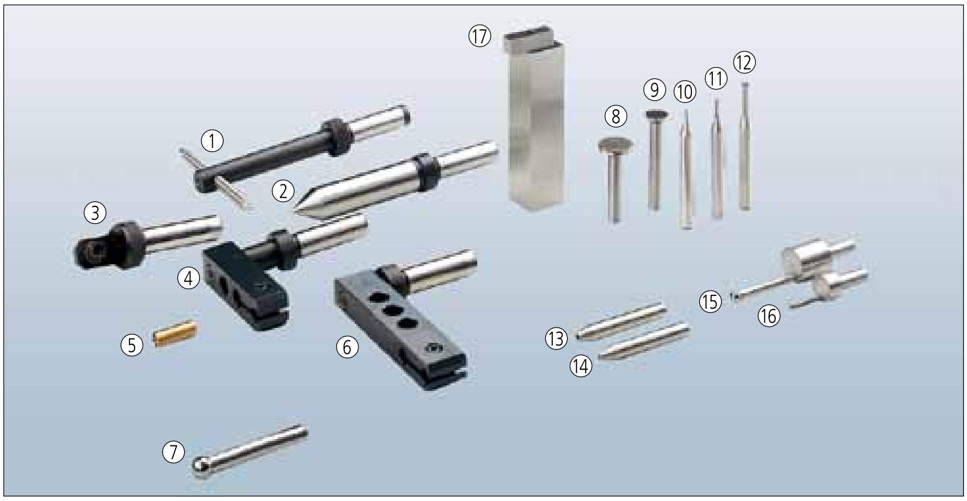
12AAF634:	5-stepped probe
12AAA715:	Ball-diameter correction block Note: When the correction is performed by using the taper type contact point, the ball-diameter correction block **12AAA787** (for taper type contact point) is required.
12AAF674:	Auxiliary weight (2 pcs.)

Example Of Measurements



The power grip makes it easy to approach the workpiece.

Optional Accessories



Code No.	Description	Price
12AAC072	Depth probe ①	£315.00
12AAC073	ø20 mm taper probe ②	£67.00
12AAA787	Block for calibrating probe diameter (applicable to taper probe) ⑰	£148.00
12AAA792	Dial indicator (ø8 mm stem) holder ④	£62.10
12AAA793	Probe extension holder (85 mm / 3.3") ⑥	£62.10
12AAB136	ø10 mm cylindrical probe	£215.00
932361	Mu-checker lever head holder*2 additional auxiliary weights are required (total 4 pcs). ③	£267.00
12AAF666	ø1 mm ball probe (coaxial type)	£98.60
12AAF667	ø2 mm ruby ball probe (coaxial type)	£145.00
957261	ø2 mm ball probe (coaxial type) ⑩	£93.40
957262	ø3 mm ball probe (coaxial type) ⑪	£98.10
957263	ø4 mm ball probe (coaxial type) ⑫	£105.00
12AAB552	ø10 mm ball probe, L = 55 mm (coaxial type) ⑦	£120.00
12AAF668	ø10 mm ball probe, L = 82 mm (coaxial type)	£105.00
12AAF669	ø10 mm ball probe, L = 120 mm (coaxial type)	£170.00
12AAF670	ø5 mm disc probe	£109.00
12AAF671	ø10 mm disc probe	£83.00
957264	ø14 mm disc probe ⑨	£140.00
957265	ø20 mm disc probe ⑧	£168.00
12AAF672	ø1 mm ball offset probe	£88.20
12AAA788	ø4 mm ball offset probe ⑯	£105.00

Code No.	Description	Price
05HAA394	ø5 mm ball offset probe	£108.00
12AAA789	ø6 mm ball offset probe ⑮	£112.00
226116	Test indicator (ø6 mm stem) adapter ⑤	£12.80
12AAA879	Sample workpiece	£168.00
226117	M2 CMM stylus adapter*1 ⑭	£52.60
226118	M3 CMM stylus adapter*1 ⑬	£52.60
932377A	ø2 CMM ball probe	£400.00
932378A	ø3 CMM ball probe	£369.00
932379A	ø5 CMM ball probe	£400.00
932380A	ø6 CMM ball probe	£421.00
532328	ø10 CMM ball probe	£180.00
532345	ø20 disc probe	£163.00
930803	ø30 disc probe	£237.00
12AAF712	Battery pack	£68.00
12AAF675	Set with cover for large capacity battery*2	£530.00
12AAG245	Single large-capacity battery*3	£220.00
Various peripheral devices		
12AAN050	Thermal printer	£810.00
12AAH035	FDD unit (USB)	£120.00
12AAA802	Thermal printing paper (10 pcs.)	£47.90
12AAA804	Cable for page printer (2 m)	£37.90
12AAA807D	RS-232C cable (2 m/80")	£30.50
12AAG920	RS-232C cable (3 m/118")	£50.00
936937	Digimatic cable (1 m)	£32.90
965014	Digimatic cable (2 m)	£39.10

*1 Styli for CMMs can be provided
*2 Set with cover for large capacity battery
*3 Single piece of large capacity battery

Height Gauges

SERIES 518 – QM-Height ABSOLUTE Digimatic High Precision Height Gauge

ABSOLUTE

518-227-1

- GO/±NG judgement on large LCD with backlight. High-performance Height Gauge with best-in-class accuracy and perpendicularity.
- Newly developed high accuracy and high resolution ABSOLUTE linear encoder for position detection. Once origin is set, origin setting is not required each time you turn the power ON (except in the case of a large environmental temperature change).
- GO/±NG judgement is performed by setting upper and lower tolerances. If a judgement result is out of tolerance, the display backlighting changes from green to red, so tolerance judgement can be made at a glance.
- With SPC and RS-232C output.
- Frequent-use measurement such as inside/outside diameter and pitch calculation can be implemented by icon-based commands that also support easy one-key operation.
- Inside/outside diameters can be measured via a unique method (detect the circle apex and process by tracing measurement*).
- Slider elevation knob (for travel) / wheel (for measurement) allows fine and coarse adjustment. Axial grip (detachable standard accessory) can be used to move the Height Gauge easily on the surface plate.

* Tracing measurement stroke is approx. 1 mm upwards and downwards from the measurement start point.

Standard Accessories

05HZA148	5-stepped probe
12AAA715	Ball-diameter correction block
Auxiliary grip	

GO

±NG

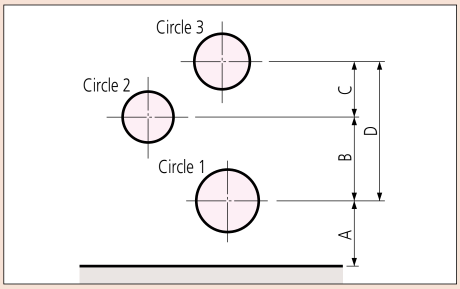
SPECIFICATIONS

Inch/Metric

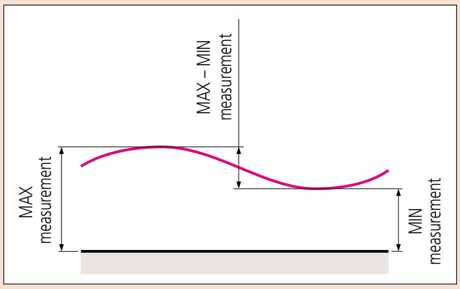
Code No.		**518-225-1**	**518-227-1**
Range		0 - 350 mm (0 - 14")	0 - 600 mm (0 - 24")
Resolution		0.001 / 0.005 mm (.00005" / .0001" / .0002")	
Accuracy at 20°C	Accuracy*	±(2.8+0.5L/100) µm, L = measuring length (mm)	
	Repeatability*	21.8 µm	
Perpendicularity		8 µm (0 - 350 mm)	13 µm (0 - 600 mm)
Guiding method		Roller bearing	
Drive method		Manual	
Scale type		ABSOLUTE electrostatic linear encoder	
Measuring force		1.6 ± 0.5 N	
Display		LCD	
Power supply		AC adapter (optional) / battery (LR6 x 4)	
Battery operation time		Approx. 800 hours (when backlight is not used)	
		Approx. 260 hours (approx. 6 hours when using backlight)	
		Approx. 6 hours (when backlight is used in the full-time power-on mode)	
Mass		22 kg	27 kg
Operating temperature range		10 to 30°C / 20 to 80%RH (must be free from condensation)	
Storage temperature range		-10 to 50°C / 5 to 90%RH (must be free from condensation)	
Price		**£1910.00**	**£2430.00**

* Guaranteed when using the standard eccentric ø5 probe.

Measurement Examples


Circle 3
Circle 2
Circle 1
C
D
B
A

Circle pitch measurement
The distances A, B, C and D can be determined by measuring circles 1 to 3 once each, using the stored measurement data together with the calculation function. (Data for a maximum of nine circles can be stored.)

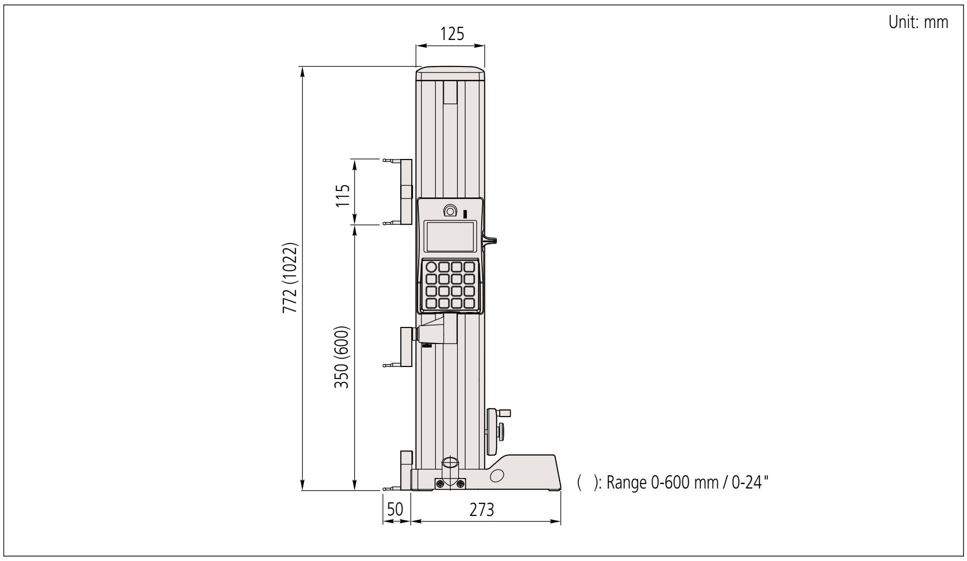

MAX – MIN measurement
MAX measurement
MIN measurement

Maximum/minimum and displacement measurement

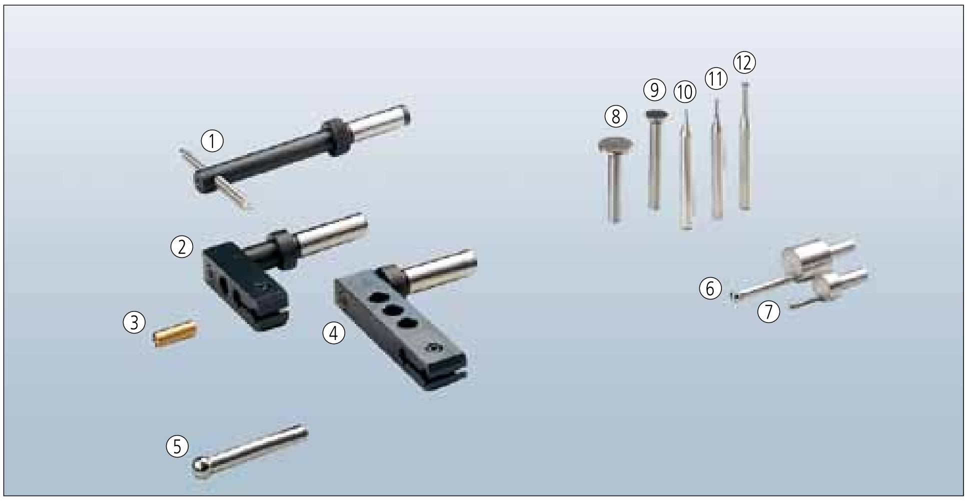
Height measurement

Inside diameter measurement

DIMENSIONS


Unit: mm
125
115
772 (1022)
350 (600)
50
273
( ): Range 0-600 mm / 0-24"

Optional Accessories

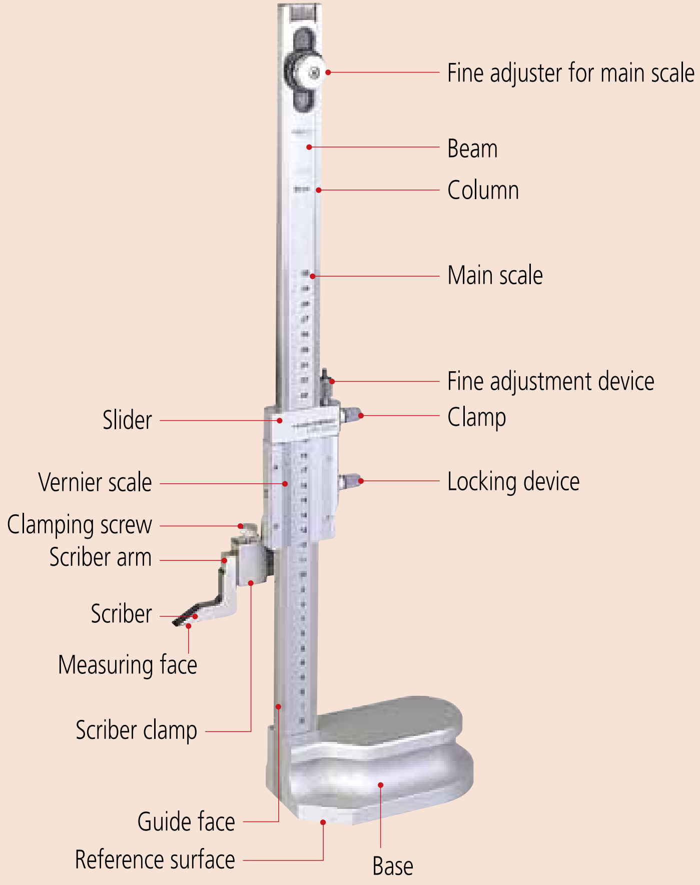

①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫

Code No.	Description	Price
12AAC072	Depth probe ①	**£315.00**
12AAA792	Dial indicator (ø8 mm stem) holder ②	**£62.10**
12AAA793	Probe extension holder (85 mm / 3.3") ④	**£62.10**
12AAF667	ø2 mm ruby ball probe (coaxial type)	**£145.00**
957261	ø2 mm ball probe (coaxial type) ⑩	**£93.40**
957262	ø3 mm ball probe (coaxial type) ⑪	**£98.10**
957263	ø4 mm ball probe (coaxial type) ⑫	**£105.00**
12AAB552	ø10 mm ball probe, L = 55 mm (coaxial type) ⑤	**£120.00**
12AAF670	ø5 mm disc probe	**£109.00**
12AAF671	ø10 mm disc probe	**£83.00**

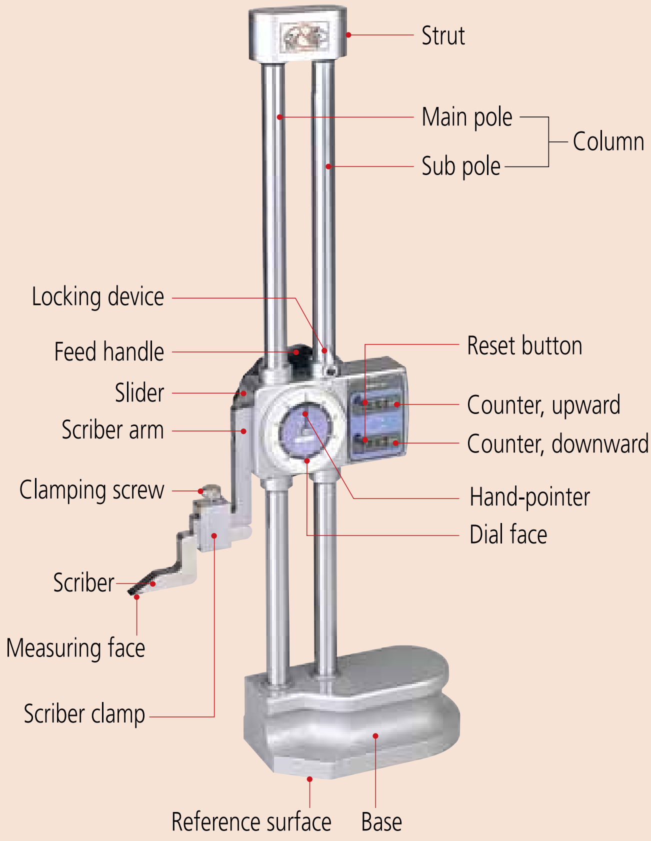
Code No.	Description	Price
957264	ø14 mm disc probe ⑨	**£140.00**
957265	ø20 mm disc probe ⑧	**£168.00**
12AAA788	ø4 mm ball offset probe ⑦	**£105.00**
05HAA394	ø5 mm ball offset probe	**£108.00**
12AAA789	ø6 mm ball offset probe ⑥	**£112.00**
226116	Test indicator (ø6 mm stem) adapter ③	**£12.80**
12AAA879	Sample workpiece	**£168.00**
05HZA173	Scriber	**£164.00**
264-504-5E	Digimatic mini-processor DP-1VR	**£342.00**
936937	SPC cable (1 m)	**£32.90**
965014	SPC cable (2 m)	**£39.10**
526688UK	AC adapter	**£24.80**

Nomenclature

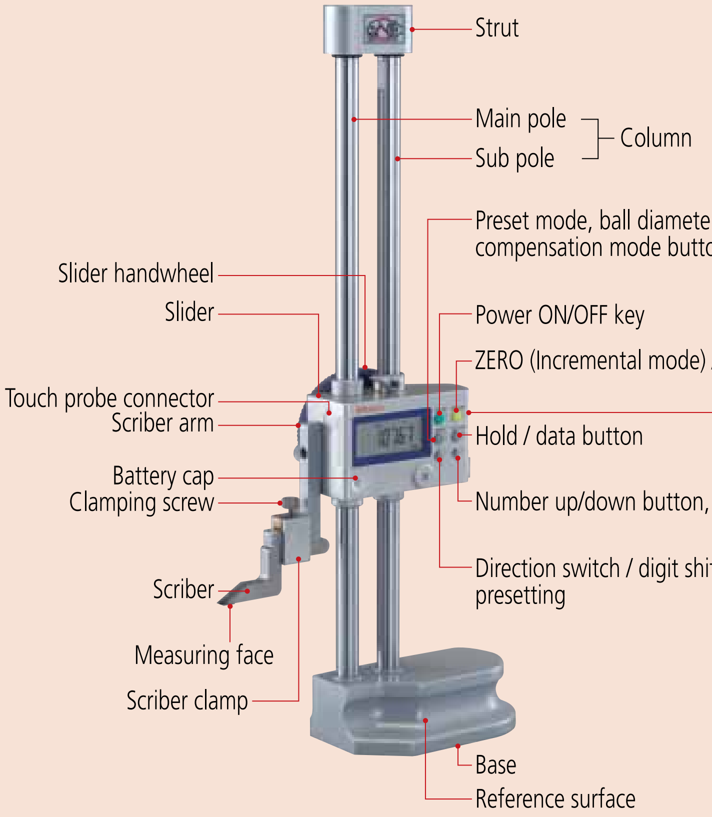
Vernier Height Gauge

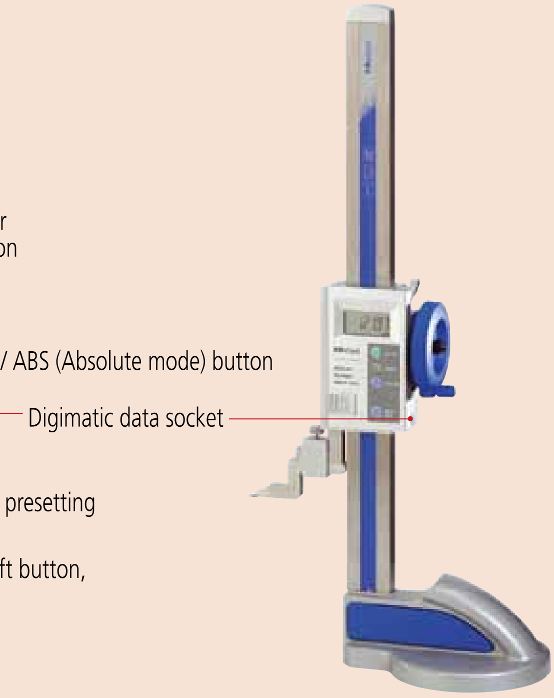

Fine adjuster for main scale
Beam
Column
Main scale
Fine adjustment device
Clamp
Slider
Vernier scale
Locking device
Clamping screw
Scriber arm
Scriber
Measuring face
Scriber clamp
Guide face
Reference surface
Base

Mechanical Digit Height Gauge


Strut
Main pole
Sub pole
Column
Locking device
Feed handle
Slider
Scriber arm
Reset button
Counter, upward
Counter, downward
Clamping screw
Hand-pointer
Dial face
Scriber
Measuring face
Scriber clamp
Reference surface
Base

Digimatic Height Gauges


Strut
Main pole
Sub pole
Column
Preset mode, ball diameter compensation mode button
Slider handwheel
Slider
Power ON/OFF key
Touch probe connector
Scriber arm
Hold / data button
Battery cap
Clamping screw
Number up/down button, presetting
Direction switch / digit shift button, presetting
Scriber
Measuring face
Scriber clamp
Base
Reference surface


ZERO (Incremental mode) / ABS (Absolute mode) button
Digimatic data socket

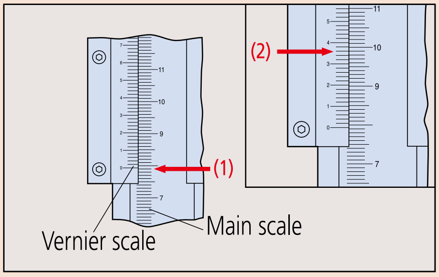
Slider handwheel

Slider clamping lever

Ergonomic base

How to read

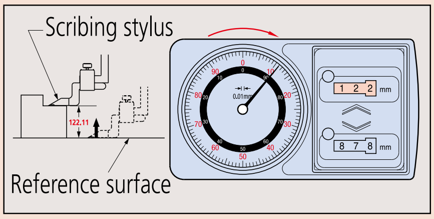
Vernier Height Gauge



Graduation	**0.02 mm**
(1) Main scale	79 mm
(2) Vernier	0.36 mm
Reading	79.36 mm

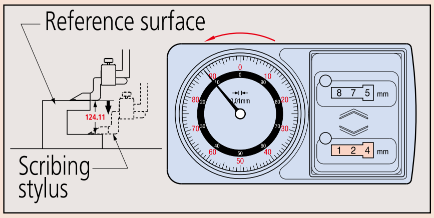
Mechanical Digit Height Gauge

Measuring upwards from a reference surface



Counter	122	mm
Dial	0.11	mm
Reading	122.11	mm

Measuring downwards from a reference surface



Counter	124	mm
Dial	0.11	mm
Reading	124.11	mm

General Notes on Use of Height Gauges

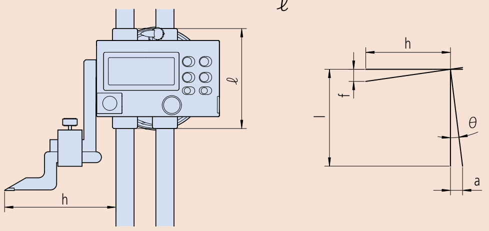
1. Potential causes of error

Like the caliper, the error factors involved include parallax effects, error caused by excessive measuring force due to the fact that a height gauge does not conform to Abbe's Principle, and differential thermal expansion due to a temperature difference between the height gauge and workpiece.
There are also other error factors caused by the structure of the height gauge. In particular, the error factors related to a warped guide face and scriber installation described below should be studied before use.

2. Guide face (column) warping and scriber installation

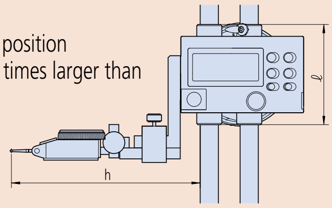
Like the caliper, and as shown in the following figure, measurement errors result when using the height gauge if the reference column, which guides the slider, becomes warped. This error can be represented by the same calculation formula for errors caused by nonconformance to Abbe's Principle.

$$f = h\theta = h\frac{a}{\ell}$$



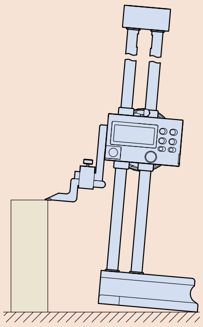
Installing the scriber (or a lever-type dial indicator) requires careful consideration because it affects the size of any error due to a warped reference column by increasing dimension h in the above formula. In other words, if a long scriber or lever-type dial indicator is used, the measurement error becomes larger.

Example: Effect of measuring point position
When h is 150 mm, the error is 1.5 times larger than when h is 100 mm.



3. Lifting of the base from the reference surface

When setting the scriber height from a gauge block stack, or from a workpiece feature, the base may lift from the surface plate if excessive downwards force is used on the slider, and this results in measurement error. For accurate setting, move the slider slowly downwards while moving the scriber tip to and fro over the gauge block surface (or feature). The correct setting is when the scriber is just felt to lightly touch as it moves over the edge of the surface. It is also necessary to make sure that the surface plate and height gauge base reference surface are free of dust or burrs before use.



4. Error due to inclination of the main scale (column)

According to JIS standards, the perpendicularity of the column reference edge to the base reference surface should be better than:

$$\left(0.01+\frac{L}{1000}\right)\text{mm}$$ L indicates the measuring length (unit: mm)

This is not a very onerous specification. For example, the perpendicularity limit allowable is 0.61 mm when L is 600 mm. This is because this error factor has a small influence and does not change the inclination of the slider, unlike a warped column.

5. Relationship between accuracy and temperature

Height gauges are made of several materials. Note that some combinations of workpiece material, room temperature, and workpiece temperature may affect measuring accuracy if this effect is not allowed for by performing a correction calculation.

6. The tip of a height gauge scriber is very sharp and must be handled carefully if personal injury is to be avoided.

7. Do not damage a digital height gauge scale by engraving an identification number or other information on it with an electric marker pen.

8. Carefully handle a height gauge so as not to drop it or bump it against anything.

Notes on Using the Height Gauge

1. Keep the column, which guides the slider, clean. If dust or dirt accumulates on it, sliding becomes difficult, leading to errors in setting and measuring.
2. When scribing, securely lock the slider in position using the clamping arrangements provided. It is advisable to confirm the setting after clamping because the act of clamping on some height gauges can alter the setting slightly. If this is so, allowance must be made when setting to allow for this effect.
3. Parallelism between the scriber measuring face and the base reference surface should be 0.01 mm or better.
   Remove any dust or burrs on the mounting surface when installing the scriber or lever-type dial indicator before measurement. Keep the scriber and other parts securely fixed in place during measurement.
4. If the main scale of the height gauge can be moved, move it as required to set the zero point, and securely tighten the fixing nuts.
5. Errors due to parallax error are not negligible. When reading a value, always look straight at the graduations.
6. Handling after use: Completely wipe away any water and oil. Lightly apply a thin coating of anti-corrosion oil and let dry before storage.
7. Notes on storage:
   Avoid direct sunlight, high temperatures, low temperatures, and high humidity during storage.
   If a digital height gauge will not be used for more than three months, remove the battery before storage.
   If a protective cover is provided, use the cover during storage to prevent dust from adhering to the column.

Depth Gauges

SERIES 329 – Digimatic Interchangeable Rod Depth Micrometer

- This type uses interchangeable rods to enable wide-range measurement.
- Allows integration into statistical process control and measurement systems.
- Measuring rod diameter: ø4 mm.
- Measuring rod lock.
- Ratchet stop provides constant measuring force.

329-350-10

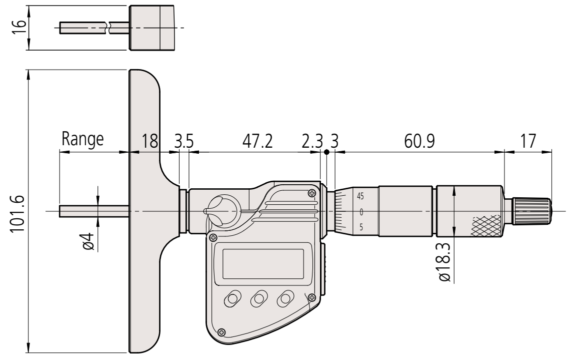
SPECIFICATIONS

Inch/Metric

Code No.	Range	Resolution	Base	No. of rods	Price
329-350-10	0 - 150 mm (0 - 6")	0.001 mm (.00005")	4 x .63"	6	**£490.00**
329-351-10	0 - 300 mm (0 - 12")	0.001 mm (.0001")		12	**£690.00**

DIMENSIONS

Unit: mm



Technical Data

Accuracy*
Micrometer head: ±3 µm / ±.00015" (excluding quantizing error)
Interchangeable rod: ±(2+R/75) µm / ±[.0001+.00005 (R/3)]"
Flatness of measuring rod face: 0.3 µm
Parallelism between reference face and measuring rod face*: (4+R/50) µm / [.00016+.00004 (R/2)]"
Battery: SR44 (2 pcs) **938882**
Battery life: Approx. 1.2 years under normal use

* R = max. range (mm/inch)
Note: Fractions rounded up

Optional Accessories

05CZA662: SPC data cable with pushbutton (1 m) **£58.50**
05CZA663: SPC data cable with pushbutton (2 m) **£70.40**
06ADV380B: USB Input Tool Direct USB-ITN-B (2 m) **£106.00**
02AZD790B: SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140B: SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£119.00**

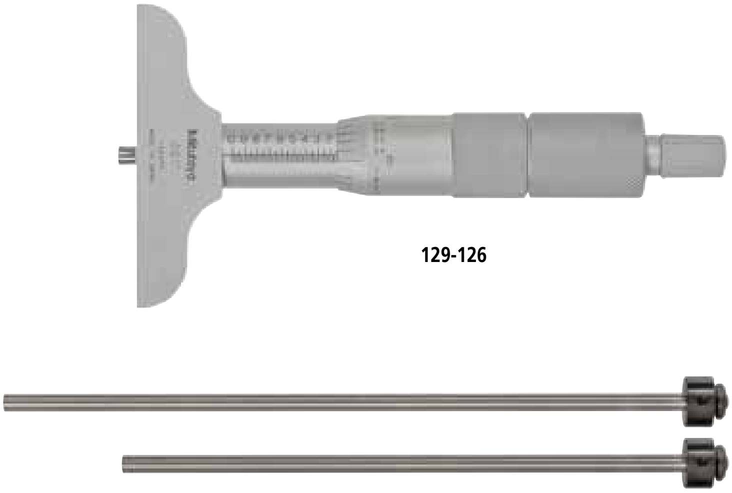
Technical Data

Accuracy*
Micrometer head: ±3 µm/±.00015"
Interchangeable rod: ±(2+R/75) µm / ±[.0001+.00005 (R/3)]"
Flatness of measuring rod face: 0.3 µm
Parallelism between reference face and measuring rod face*: (4+R/50) µm / [.00016+.00004 (R/2)]"

* R = max. range (mm/inch)
Note: Fractions rounded up

SERIES 129 – Interchangeable Rod Depth Micrometer

- This type uses interchangeable rods to enable wide-range measurement.
- Measuring rod diameter: ø4 mm.
- Measuring rod lock.
- Ratchet stop provides constant measuring force.



129-126

SPECIFICATIONS

Metric

Code No.	Range	Graduation	Base	No. of rods	Price
129-110	0 - 75 mm	0.01 mm	63.5 x 16 mm	3	**£117.00**
129-111	0 - 100 mm			4	**£118.00**
129-112	0 - 150 mm			6	**£185.00**
129-116			101.6 x 16 mm		**£195.00**
129-153	0 - 300 mm			12	**£249.00**

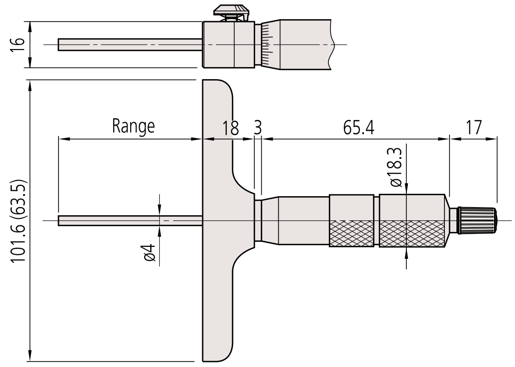
Inch

Code No.	Range	Graduation	Base	No. of rods	Price
129-126	0 - 3"	.001"	2.5 x .63"	3	**£117.00**
129-128	0 - 6"			6	**£185.00**
129-132			4 x .63"		**£195.00**
129-150	0 - 12"			12	**£249.00**

DIMENSIONS

Unit: mm

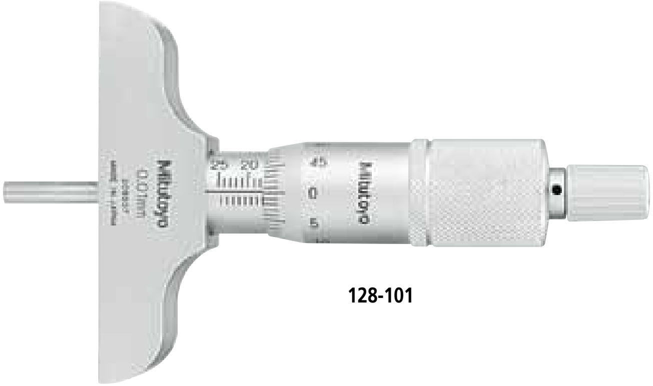
129-116 (**129-110**)



Depth Gauges

SERIES 128 – Depth Micrometer

- Measuring rod diameter: ø4 mm.
- Ratchet stop provides constant measuring force.



128-101

SPECIFICATIONS

Metric

Code No.	Range	Accuracy	Graduation	Base	Price
128-101	0 - 25 mm	±3 μm	0.01 mm	63.5 x 16 mm	**£79.20**
128-102				101.6 x 16 mm	**£86.10**

Inch

Code No.	Range	Accuracy	Graduation	Base	Price
128-105	0 - 1"	±.00015"	.001"	2.5 x .63"	**£79.20**
128-106				4 x .63"	**£86.10**

Technical Data

Flatness of reference face:	1.3 μm (.00005") for 63.5 mm (2.5") length base, 2 μm (.00008") for 101.6 mm (4") length base
Flatness of measuring spindle face:	0.3 μm

SERIES 571 – ABSOLUTE Digimatic Coolant Proof Depth Gauge

- Enables stable depth measurement with a resolution of 0.01 mm.
- Features Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Optional longer extension bases are available.
- Sliding operation is smooth and comfortable.
- Data output function allows integration into statistical process control and measurement systems.

Technical Data

Repeatability:	0.01 mm (.0005")
Scale type:	ABSOLUTE electrostatic linear encoder
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years (1 year: 300 mm/12" models) under normal use.

Optional Accessories

05CZA624:	SPC data cable with pushbutton (1 m)	**£58.50**
05CZA625:	SPC data cable with pushbutton (2 m)	**£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m)	**£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm)	**£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm)	**£114.00**

ABSOLUTE
COOLANT PROOF
50.59
Mitutoyo

571-261-10

SPECIFICATIONS

Inch/Metric

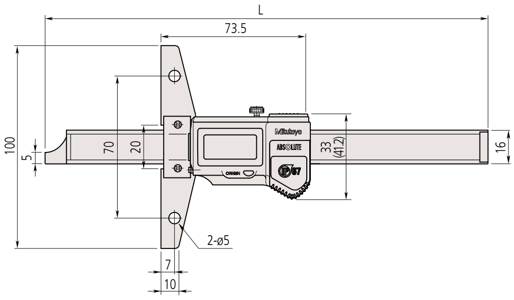
Code No.	Range	Resolution	Accuracy*	Price
571-261-10	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm (±.001")	**£346.00**
571-262-10	0 - 200 mm (0 - 8")			**£394.00**
571-263-10	0 - 300 mm (0 - 12")		±0.03 mm (±.0015")	**£406.00**

* Excluding quantizing error.

DIMENSIONS

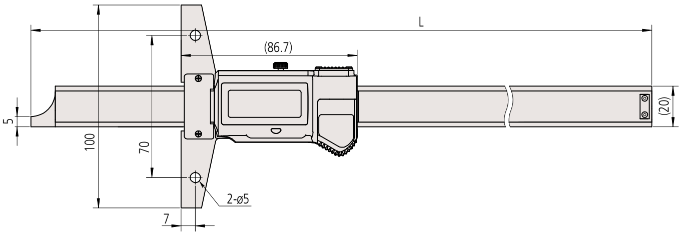
Unit: mm

Models up to 200 mm measuring range



Range	L	Base (W x T)
0 - 150 mm	237	100 x 6
0 - 200 mm	287	
0 - 300 mm	404	100 x 6.3

571-263-10



Depth Gauges

SERIES 571 – ABSOLUTE Digimatic Depth Gauge

- Enables stable depth measurement with a resolution of 0.01 mm.
- Features Mitutoyo's ABSOLUTE system. No need to reset the origin after switching on.
- Optional longer extension bases are available (except for models with measuring ranges of 600, 750, 1000 mm).
- Data output function allows integration into statistical process control and measurement systems.

571-211-20

SPECIFICATIONS

Inch/Metric

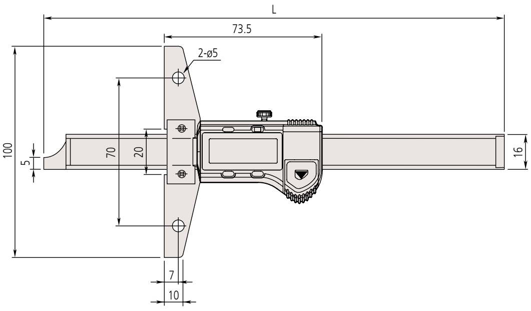
Code No.	Range	Resolution	Accuracy*	Price
571-211-20	0 - 150 mm (0 - 6")	0.01 mm (.0005")	±0.02 mm (±.001")	**£304.00**
571-212-20	0 - 200 mm (0 - 8")			**£316.00**
571-213-10	0 - 300 mm (0 - 12")		±0.03 mm (±.0015")	**£406.00**
571-214-10	0 - 450 mm (0 - 18")		±0.05 mm (±.002")	**£561.00**
571-215-10	0 - 600 mm (0 - 24")			**£637.00**
571-216-10	0 - 750 mm (0 - 30")		±0.06 mm (±.0025")	**£650.00**
571-217-10	0 - 1000 mm (0 - 40")		±0.07 mm (±.0025")	**£704.00**

* Excluding quantizing error.

DIMENSIONS

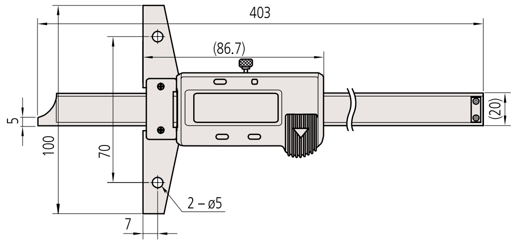
Unit: mm

Models up to 200 mm measuring range

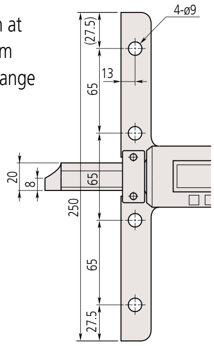


Range	L	Base (W x T)
0 - 150 mm	237	100 x 6
0 - 200 mm	287	
0 - 300 mm	403	
0 - 450 mm	635	250 x 10
0 - 600 mm	785	
0 - 750 mm	935	
0 - 1000 mm	1200	

571-213-10



Models with at least 450 mm measuring range



Technical Data

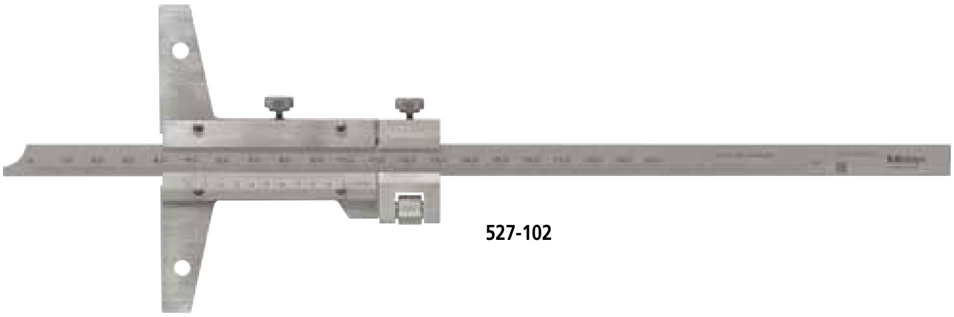
Repeatability:	0.01 mm (.0005")
Scale type:	ABSOLUTE electrostatic linear encoder
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years (1 year: 300 mm/12" models) under normal use.

Optional Accessories

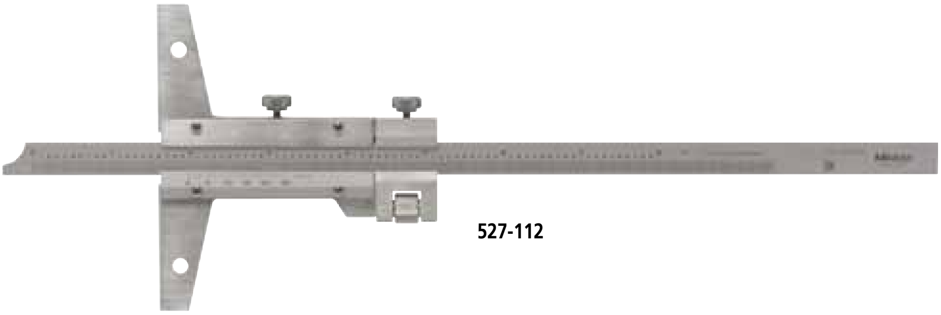
959143:	Data hold unit **£17.00**
959149:	SPC data cable with pushbutton (1 m) **£34.60**
959150:	SPC data cable with pushbutton (2 m) **£39.40**
06ADV380C:	USB Input Tool Direct USB-ITN-A (2 m) **£90.80**
02AZD790C:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140C:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**

SERIES 527 – Vernier Depth Gauge

- Standard gauge for depth measurement.
- Optional longer extension bases are available (except for models with measuring ranges of 600 and 1000 mm).



527-102



527-112

SPECIFICATIONS

Metric

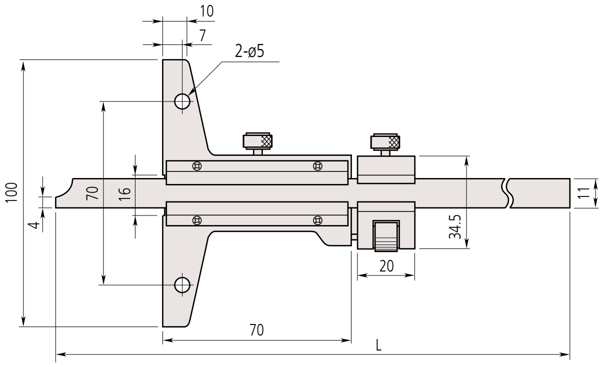
Code No.	Range	Graduation	Accuracy	Base (W x T)	Remarks	Price
527-101	0 - 150 mm	0.05 mm	±0.05 mm	100 x 6.5 mm	With fine adjustment	**£84.50**
527-102	0 - 200 mm					**£93.50**
527-103	0 - 300 mm		±0.08 mm			**£131.00**
527-104	0 - 600 mm		±0.10 mm	250 x 10 mm	—	**£560.00**
527-105	0 - 1000 mm		±0.15 mm			**£610.00**

Inch/Metric

Code No.	Range	Graduation	Accuracy	Base (W x T)	Remarks	Price
527-111	0 - 6"	.001"	±.001"	3.93 x .25"	With fine adjustment	**£84.50**
527-112	0 - 8"					**£93.50**
527-113	0 - 12"		±.0015"	9.8 x .39"		**£131.00**
527-114	0 - 24"		±.002"			**£560.00**
527-115	0 - 40"		±.003"			**£602.00**

DIMENSIONS

Unit: mm



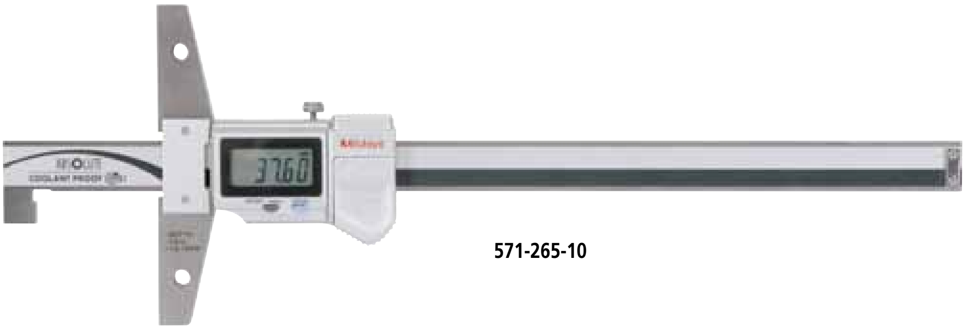
Range	L
0 - 150 mm	260
0 - 200 mm	310
0 - 300 mm	410
0 - 600 mm	800
0 - 1000 mm	1200

Models with the measuring ranges of over 600 mm have different configurations

Depth Gauges

SERIES 571 – ABSOLUTE Digimatic Coolant Proof Hook End Depth Gauge

- The end of the main beam is hook-shaped to allow depth and thickness measurements of a projected portion or lip in a hole, in addition to standard depth measurement.
- Enables stable depth measurement with a resolution of 0.01 mm.
- Features Mitutoyo's ABSOLUTE system with IP67 ingress protection. No need to reset the origin after switching on.
- Optional longer extension bases are available.
- The OFF switch is used to switch between direct display of hook and depth readings.
- Slider operation is smooth and comfortable.
- Allows integration into statistical process control and measurement systems for models with measurement data output connector.



571-265-10

SPECIFICATIONS

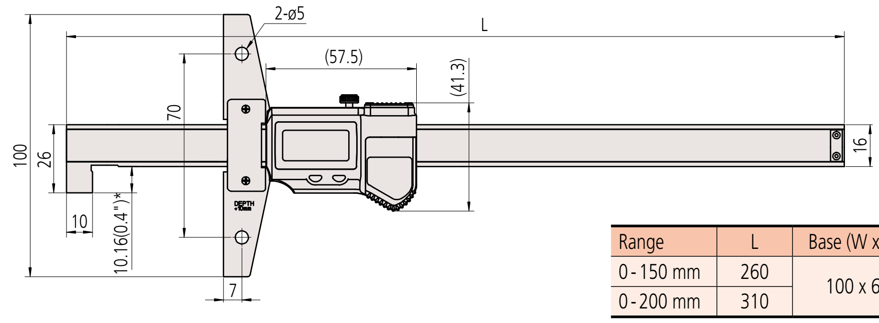
Inch/Metric

Code No.	Range: L_1 (L_2 and L_3)	Resolution	Accuracy*	Price
571-264-10	10 - 160 mm (0 - 150 mm) / .4 - 6.4" (0 - 6")	0.01 mm / .0005"	±0.03 mm / ±.0015"	**£360.00**
571-265-10	10 - 210 mm (0 - 200 mm) / .4 - 8.4" (0 - 8")			**£406.00**

* Excluding quantizing error.

DIMENSIONS

Unit: mm



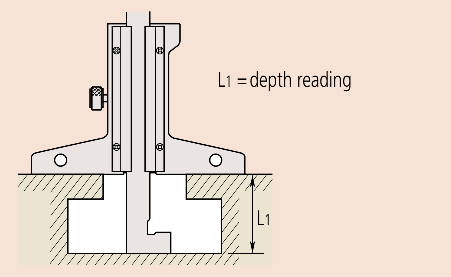
Range	L	Base (W x T)
0 - 150 mm	260	100 x 6
0 - 200 mm	310	

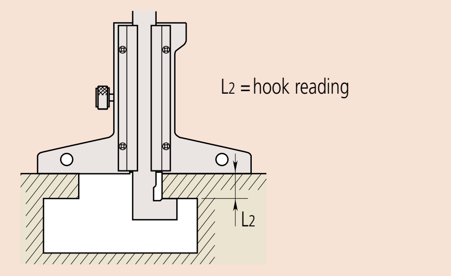
Technical Data

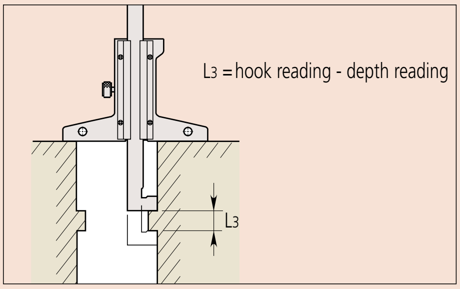
Scale type:	ABSOLUTE electrostatic linear encoder
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 3 years under normal use.

Optional Accessories

05CZA624:	SPC data cable with pushbutton (1 m) **£58.50**
05CZA625:	SPC data cable with pushbutton (2 m) **£70.40**
06ADV380A:	USB Input Tool Direct USB-ITN-A (2 m) **£106.00**
02AZD790A:	SPC data cable for U-WAVE-T (160 mm) **£52.20**
02AZE140A:	SPC data cable for U-WAVE-T and footswitch (160/500 mm) **£114.00**



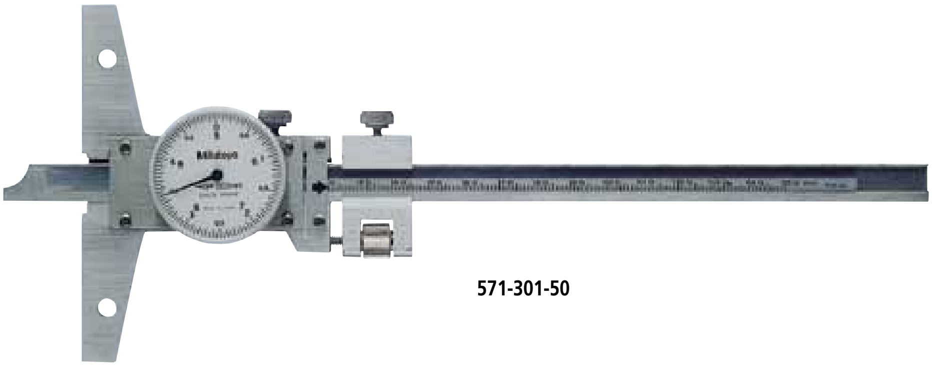




Mitutoyo
0.05mm

SERIES 527 – Dial Fine Adjustment Depth Gauge

- Easy-to-read dial caliper with rack and pinion magnification mechanism.
- Optional longer extension bases are available.



571-301-50

SPECIFICATIONS

Metric

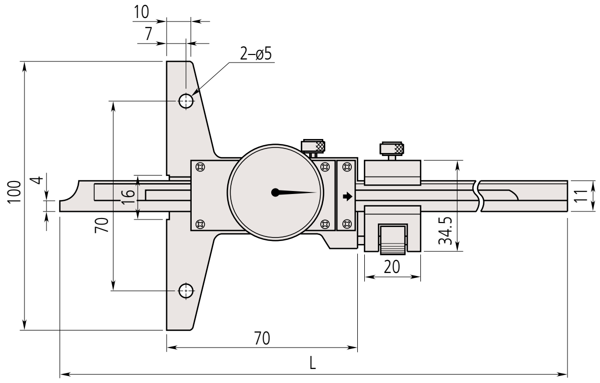
Code No.	Range	Dial reading	Accuracy	Price
527-301-50	0 - 150 mm	0.05 mm	±0.05 mm	**£128.00**

Inch

Code No.	Range	Dial reading	Accuracy	Price
527-311-50	0 - 6"	.001"	±.001"	**£128.00**
527-312-50	0 - 8"			**£210.00**
527-313-50	0 - 12"		±.0015"	**£240.00**

DIMENSIONS

Unit: mm



Range	L	Base (W x T)
0 - 6"	260	100 x 6.5
0 - 8"	310	
0 - 12"	410	

Depth Gauges

SERIES 7 – Dial Depth Gauges

- Optimal for hole, narrow groove and step measurement.

7211

7214

7222

SPECIFICATIONS

Metric

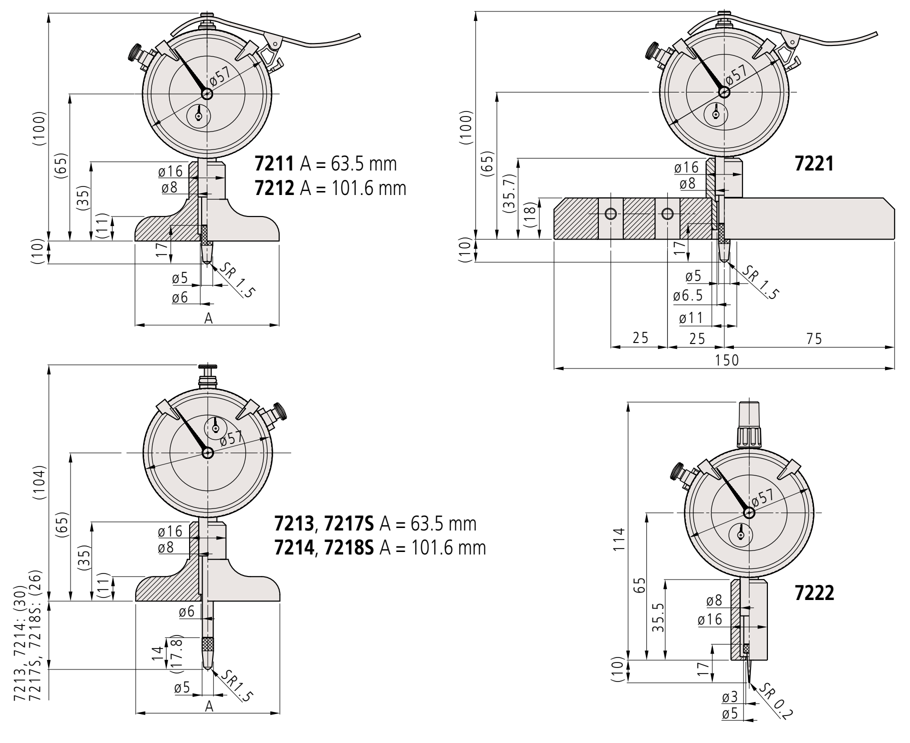
Code No.	Range	Accuracy	Stroke	Measuring force	Extension rod	Dial indicator	Price
7211	0 - 200 mm	±15 µm	10 mm	1.4N	5 pcs. (10, 20, 30, 30, 100 mm)	**2902SB**	**£132.00**
7212							**£136.00**
7213	0 - 210 mm	±30 µm	30 mm	2.5N	3 pcs. (30, 60, 90 mm)	**2952SB**	**£196.00**
7214							**£263.00**
7221	0 - 200 mm	±15 µm	10 mm	1.4N	5 pcs. (10, 20, 30, 30, 100 mm)	**2902SB**	**£189.00**
7222	0 - 10 mm				—		**£98.70**

Inch

Code No.	Range	Accuracy	Stroke	Measuring force	Extension rod	Dial indicator	Price
7217S	0 - 8"	±.002"	1"	2.5N	3 pcs. (1", 2", 4")	**2904SB**	**£137.00**
7218S							**£143.00**

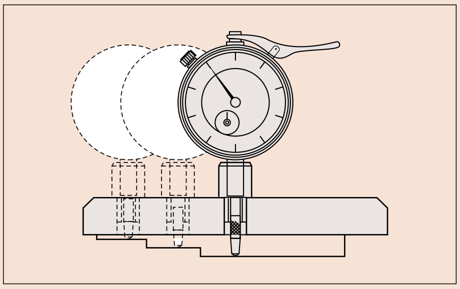
DIMENSIONS

Unit: mm


(100)
(65)
(35)
(11)
(10)
ø57
ø16
ø8
17
ø5
ø6
SR 1.5
A
7211 A = 63.5 mm
7212 A = 101.6 mm
7221
(35.7)
(18)
ø6.5
ø11
25
25
75
150
(104)
7213, 7214: (30)
7217S, 7218S: (26)
14
(17.8)
SR1.5
7213, **7217S** A = 63.5 mm
7214, **7218S** A = 101.6 mm
7222
114
65
35.5
ø3
SR 0.2

Technical Data

Graduation:	0.01 mm / .0005"
Base flatness:	5 µm / .0002"
Base thickness:	16 mm (18 mm: **7221**)
Mounting position of a dial indicator:	1 (3: **7221**)
Contact point:	Carbide-tipped ball point (needle point: **7222**)


7221 allows the mounting position of a dial indicator to be varied.

Caution should be used when exchanging the contact point of a depth gauge

The measurement range may not be maintained when mounting a differently sized contact point than the standard accessory. Zero-setting will not be possible if the contact-point diameter is too large for the plunger hole in the bottom face of the base. Parallelism adjustment with the bottom face of the base is required when mounting a flat contact point such as the flat/needle or carbide-tipped contact point.

SERIES 547 – ABSOLUTE Digimatic Depth Gauge

Technical Data

Stroke:	12.7 mm/.5"
Measuring force:	1.5N
Base flatness:	5 µm/.0002" (2 µm/.00008": **543-392B**)
Base thickness:	16 mm/.63"
Contact point:	Carbide-tipped ball point
Max. response speed:	Unlimited
Battery:	SR44 (1 pc.), **938882**
Battery life:	Approx. 7000 hours under normal use

Optional Accessories

905338:	SPC data cable (1 m) **£32.90**
905409:	SPC data cable (2 m) **£36.80**
02AZD790F:	SPC data cable for U-WAVE-T (160 mm) **£52.20**

Caution should be used when exchanging the contact point of a depth gauge

The measurement range may not be maintained when mounting a differently sized contact point than the standard accessory. Zero-setting will not be possible if the contact-point diameter is too large for the plunger hole in the bottom face of the base. Parallelism adjustment with the bottom face of the base is required when mounting a flat contact point such as the flat/needle or carbide-tipped contact point.

- Easy-to-read dial effectively prevents misreading.
- Allows integration into statistical process control and measurement systems for models with measurement data output connector.

ABSOLUTE

547-217S

547-218S

SPECIFICATIONS

Metric

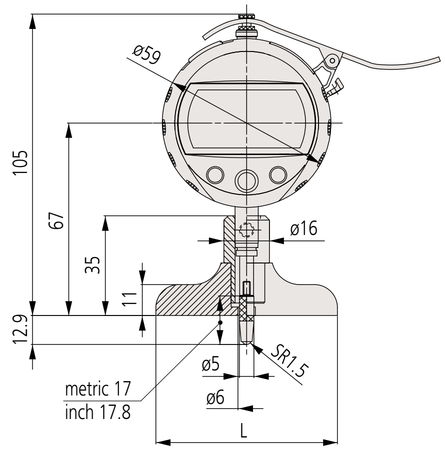
Code No.	Range	Graduation	Accuracy*1	Extension rod	Indicator	Price
547-217S	0-200 mm/ 0-8"	0.01 mm/.0005"	±20 µm/±.001"	4 pcs. (.5", 1", 2", 4")	**543-402B***2	**£287.00**
547-218S						**£292.00**
547-258S		0.001 mm/.00005"	±5 µm/±.0002"		**543-392B**	**£351.00**

*1 Excluding quantizing error

*2 The measuring force of this indicator is different from that of the standard 543-402B

DIMENSIONS

Unit: mm



Code No.	L	Base thickness
547-217S	2.5"	.63"
547-218S	4"	
547-258S		

Optional Accessories

SERIES 515 – Depth Micro Checker

- The Depth Micro Checker is designed to check and help set the range-end points of a depth micrometer.

515-570

515-571

A 25 mm anvil block provides the reference surface for the depth micrometer rod.

SPECIFICATIONS

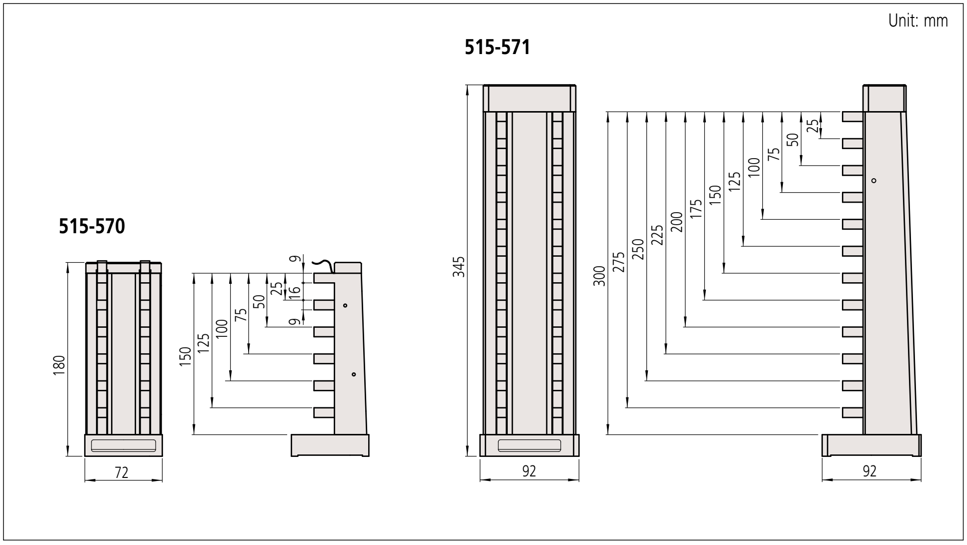
Metric

Code No.	Range	Block pitch accuracy	Anvil block accuracy	Price
515-570	0 - 150 mm	±(1+L/150) µm, L = length to check (mm)	±0.5 µm	**£1050.00**
515-571	0 - 300 mm			**£2820.00**

Inch

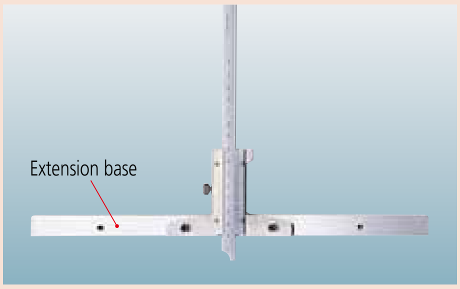
Code No.	Range	Block pitch accuracy	Anvil block accuracy	Price
515-575	0 - 6"	±(40+L/0.15) µinch, L = length to check (inch)	±20 µinch	**£1050.00**

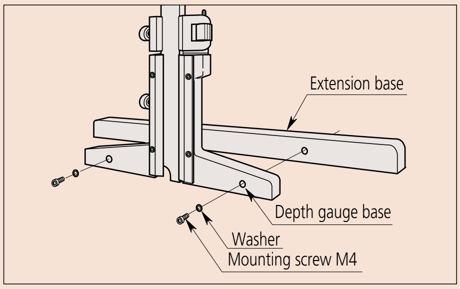
DIMENSIONS


Unit: mm
515-571
515-570
180
72
150
125
100
75
50
25
9
16
9
345
92
300
275
250
225
200
175
150
125
100
75
50
25
92

Extension Bases for Depth Gauges

- Attaches to the base (reference face) plate of a depth gauge to extend its span.
- Refer to the illustrations at left for attachment details.
- These extension bases cannot be attached to 0-600 mm, 0-1000 mm, 0-24" and 0-40" range models.


Extension base


Extension base
Depth gauge base
Washer
Mounting screw M4

900372

SPECIFICATIONS

Metric

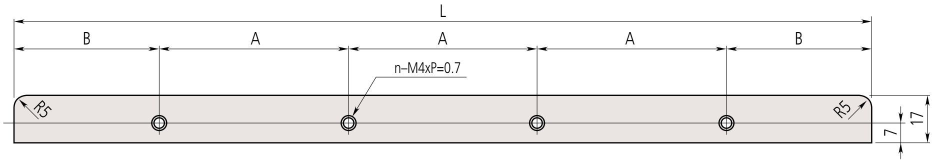
Code No.	Size L	Price
900370	180 mm	**£30.00**
900371	260 mm	**£40.00**
900372	320 mm	**£50.00**

Inch

Code No.	Size L	Price
900367	7"	**£30.00**
900368	10"	**£40.00**
900369	12"	**£50.00**

DIMENSIONS

Unit: mm

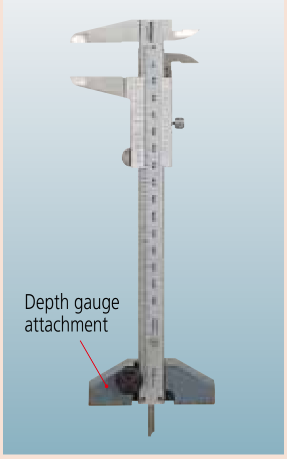

L
B
A
A
A
B
n–M4xP=0.7
R5
R5
7
17

Code No.	L	A	B	n	T
900372	180	70	55	2	8
900371	260	35	60	5	
900372	320	70	55	4	

T: Base thickness

Depth Gauge Attachment for Calipers

- Attaching this depth gauge attachment to the depth measurement face of the caliper makes depth measurement accurate and secure.


Depth gauge attachment

050084-10

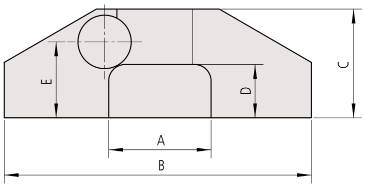
SPECIFICATIONS

Metric

Code No.	Size	Applicable measuring range of caliper	Price
050083-10	75 mm	100 mm, 150 mm, 200 mm, 4", 6" and 8"	**£35.00**
050084-10	100 mm		**£40.00**
050085-10	125 mm	300 mm and 12"	**£45.00**

DIMENSIONS

Unit: mm



Size	A	B	C	D	E	T
75 mm	25	75	26.5	13	18.5	12
100 mm		100				
125 mm	30	125	28.5		20	14

T: Base thickness